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Adult Development in Relation to Teacher Professional Development

University — Université

University of Alberta

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée

PhD.

Year this degree conferred — Année d'obtention de ce grade	Name of Supervisor — Nom du directeur de thèse
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THE UNIVERSITY OF ALBERTA

ADULT DEVELOPMENT IN RELATION TO TEACHER PROFESSIONAL DEVELOPMENT

By

Joyce B. Krysowaty

(C)

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

IN

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL, 1979

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled .....

Adult Development in Relation

to Teacher Professional Development

submitted by Joyce B. Krysowaty

in partial fulfilment of the requirements for the degree of Doctor of Philosophy

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This volume is dedicated to Pamela and Lisa who taught me the essence of 'developmental psychology'.

ABSTRACT

The study was stimulated by the observation that, theoretically, there appears to be a basic congruence, or at least a basic compatability, between characterizations of psychological maturity and characterizations of teacher professional maturity and descriptions of 'ideal' teacher types. Based upon the assumption that the currently desirable 'self-renewing' teacher may well be the individual who has attained a relatively high level of development on both the psychological (as defined by structural theory) and on the professional development continua, a field study was undertaken to explore the interstices between states of progression on these two continua. The goal was as much to generate hypotheses as it was to confirm or question theoretical positions.

Specifically, the intent of the study was threefold:

(1) To investigate (describe) residual relationships (a) between scores obtained on purported measures of cognitive structural development, i.e. Conceptual Level (CL) as defined and indexed by Hunt (1971b; Hunt et al., 1977), and moral judgment scores as defined and indexed by Kohlberg (1973); (b) between CL scores and teacher development scores (TC) as the latter are defined and indexed by Fuller and her associates (1969, 1972); and (c) between scores as obtained in (b) and scores purported to index teaching style (RI) as defined by Joyce and Harootunian (1967).

(2) To investigate the relative efficacy of a teacher socialization program ('Teacher Enrichment Experience'), designed in accord with the Hunt model (1972), as compared with a simple 'Hawthorne-expectancy' treatment with respect to inducement of cognitive structural elaboration and progression in level of teacher development and the relation of selected demographic variables to pre-post performance.

(3) To discern and describe group profiles based upon the variables central to the study.

The field study involved, sequentially, the pre-treatment collection of data from two groups of 'select' teachers who had been specifically recruited for each treatment, engagement in the treatment programs which spanned the course of a school year, and post-treatment data collection. Data were analyzed quantitatively and qualitatively.

Major findings (and conclusions) of the study were as follows:

Residual characteristics

The residual psychological level, as indexed by both PC/CL and MJ, was found to be low, comparatively, whereas the level of teacher development was found to be more reflective of a 'select' group. Few exemplars of teachers who had attained a high level of development on both the PC/CL and TC scoring continua were found.

Residing relationships

Although there existed a significant positive relation between PC and MJ scores there was an absence of the theoretically expected high level stage correspondence.

The pattern of relationship between PC/CL and TC scores was one of increasing TC level with increasing CL through CL_3. There appeared to be no consistent relationship pattern between reflectivity in teaching, as indexed by RI scores, and CL.

Treatment efficacy

The 'Hawthorne-expectancy' treatment group evinced a superior pre-post performance with respect to CL progression than did the 'Teacher Enrichment Experience' group. The potency effect held across CL groups.

Whereas the 'Hawthorne-expectancy' group recorded no observable

progress on the TC dimension, the 'Teacher Enrichment Experience' group did record an increment in development, although not of statistical significance.

The 'Teacher Enrichment Experience' group recorded a significant pre-post RI increment.

Factors relating to PC/CL and TC performance

Area was found to interact with PC and RI pre-post performance but not with TC performance. Course recency and age were also found to interact with PC and TC performance. In view of sampling biases these factors merit further investigation.

Age-stage and performance

Age profiles for psychological development (CL) appeared not to differ but in the area of professional development age appears to be a meaningful variable. The pattern evinced showed a comparatively low level of development for Age_1 (20-29 years), a rapid peaking for Age_2 (30-39 years) and a progressive decline thereafter (40-49, 50 years plus).

Hypotheses and implications, with respect to both theory and practice, were advanced. The discussion concluded with the presentation of a model for the coordination of staff and institutional development.

ACKNOWLEDGEMENTS

The author would like to extend her appreciation and sincere thanks to the following persons:

To Dr. L. Stewin, thesis supervisor, for his support and guidance throughout the project;

To Dr. D. Massey, Dr. W. Penner, and Dr. W. Hague, members of the committee, for their interest and counsel;

To Dr. D.E. Hunt, external examiner, for his perceptive comments and support;

To Dr. T. Maguire and Ms J. Kyle for their advice and help with respect to the statistical analyses used in the study;

To the cooperating adminstrators and especially to the teachers whose cooperation made this study possible;

To my family.

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CHAPTER I

INTRODUCTION AND OVERVIEW OF THE STUDY PLAN

The study reported herein was stimulated by the observation that theoretically there appears to be a basic congruence between characterizations of psychological maturity, as advanced by developmental psychologists and personologists, and characterizations of teacher professional maturity, as advanced in recent educational literature. Similarly, there would appear to be an observable theoretical relation between maturity as characterized on these two continua and proposed attributes of 'ideal' teacher types as explicated by studies of teacher effectiveness and by prominent educators. In short, there would appear to be some overlap between the areas of person or psychological developmental maturity and teacher professional maturity. Such a posited relationship would seem intuitively reasonable in that to be an 'effective' teacher in today's schools would seem to require a certain degree of maturity. In view of the relative recency of theoretical advance and instrumentation in both the fields of adult development and teacher development, it not surprising that virtually no attention has been directed toward a verification and explication of such a posited relationship. Investigations directed toward this end should yield information with respect to the popular and important question: Are 'good' teachers born (naturals) or are they made or are they both? It is toward this end--toward an exploration of the interstices between the state of progression toward psychological maturity and teacher professional maturity that the study reported herein was directed.

Until recently adults have been viewed in a relatively undifferentiated manner; only within the last decade has adult development become a concentrated field of study. Some theorists have sought to describe

adulthood in terms of psychosocial ages and to identify periods of stability and change therein (Buhler & Messarik, 1968; Gould, 1975; Levinson, 1978; Lowenthal, Thunher, Chiriboga, & Associates, 1975; Sheehy, 1976; Vaillant, 1977). Another approach is afforded through structural theories of personality development (Harvey, Hunt, & Schroder, 1961; Kohlberg, 1973; Loevinger, 1966; Sullivan, Grant, & Grant, 1957). The latter approach, in particular the Conceptual Systems model (Harvey et al., 1961; Hunt, 1971b) and the Moral Judgment model of Kohlberg (1973), by virtue of their synthesizing and accommodative nature and their adequacy in terms of built-in change models and accompanying instrumentation, would appear to be potentially useful in the empirical study of adult psychological development. A comparison of the Hunt and Kohlberg cognitive structural models with other structural developmental models--ego and interpersonal competence--and with the more descriptive age-stage models suggests relationships across areas and stages. Such relationships have also been noted by Chickering (1976), Knox (1977), and Loevinger (1976). Although such relationships remain yet hypothetical they may well be the genesis of a more comprehensive theory of adult development.

Results of studies suggest that few adults reach maturity in terms of their potential for development (Harvey et al., 1961; Kohlberg, 1973; Maslow, 1954). Thus there appears to be a generally accepted need to investigate ways of actualizing the adult potential for development.

Although relatively little is presently known about the process of change and development in adults, there appears to be a consensus among theorists that experience (environment) is an important component in the process (Flavell, 1970). Further, it has been proposed by students of adult socialization that the more personal or self-initiated the experience,

the greater is its potential for effecting change (Brim, 1968). Increasing awareness of the intimate role that occupation plays in the psychological life of the adult (Argyris & Schon, 1974; Hall & Morgan, 1977; Herzberg, 1966; McGregor, 1960) has stimulated interest in examining the potential of the occupation and of occupational socialization in the facilitation of individual development (Hershey & Blanchard, 1972). The parallelisms noted between models of occupational development (stage and person) and the age-stage and structural psychological models referred to earlier invite attention. In that teaching by its very nature would seem to involve a very intimate relation between the person and the occupation, teacher socialization should constitute a potentially good context in which to study and effect change and development in adult subjects.

A similar trend to that observed in adult study and occupation study is witnessed in the study of teacher performance. The commonly held conception that following an intensive period of anticipatory socialization teachers (like butterflies) emerge 'full-blown' is being challenged by an 'emerging' conception of teacher competence. Toward this end Fuller (1969) and Katz (1972) have elaborated stage models of teacher development. Of intrinsic interest to this study is the observation that those characteristics proposed to define teacher developmental maturity are most compatible with characteristics of 'ideal' teachers and with those characteristics proposed to define psychological maturity.

In part as a reflection of this new teacher development orientation along with the observation that the teacher population exhibits few exemplars of the 'ideal' teacher type and coupled with concern with respect to the increasing threat of obsolescence, educators are beginning to propose that teacher socialization programs be growth oriented toward the goal of producing 'self-renewing' teachers (Jackson, 1971; Horton & Horton, 1974).

If the observations with respect to the overlap of effective teacher developmental characteristics with characteristics of psychological maturity are empirically veridical then it would seem that optimizing psychological maturity might be related to optimizing teacher development toward the end of producing a 'self-renewing' teacher.

There appears then to be an expressed concern for optimizing both adult and teacher development. There is reason to believe that teacher socialization may be a potent context for such a purpose. Such a rapprochement between these two aspects of psychology and education has been of some concern to Hunt (1971b, 1977). Toward this goal a small, germinal body of theory and research has accumulated.

The orientation of changing the individual through intervention socialization, so prevalent in the psychological and educational literature, places maximal confidence in the power of the adult to transcend any contextual limitations of his work space. The study reported herein was commenced upon this assumption but behavioral feedback from the subjects being subjected to such socialization called attention to the probable tenuous nature of such a position. Support for such a concern was found in the sociological literature and in the content area of Organizational Development (OD). Models of organization structures--in particular, the two polar models of professional practice and interpersonal relationships articulated by Argyris and Schon (1974) and the 'mechanistic-organismic' continuum of Owens and Steinhoff (1076)--suggest that the practice of personal developmental arrest is possibly built into many of our societal institutions, certainly the school as it presently exists. Thus it would seem that the character of the institutional structure must be considered as an important factor when assessing potential for individual development within institutions.

As originally conceived, it was the general purpose of this study to explore the virtually unexplored interstices between the state of progression toward psychological maturity and the state of progression toward teacher professional maturity. The goal was as much to generate hypotheses as it was to confirm or question theoretical positions. More specifically, the intent of the study was threefold: (1) To investigate (describe) residual relationships between and among scores obtained on purported measures of cognitive structural characteristics (conceptual level and moral judgment level), measures of level of teacher development, selected teaching behavior, and selected demographic characteristics; (2) To investigate the relative efficacy of a teacher socialization program, designed in accord with psychological development theory, in relation to structural elaboration (cognitive structural development) and progression in level of teacher development; and (3) To discern and describe group profiles based upon the variables central to the study.

In view of the logistics of sampling the nonequivalent control group design (Design 10) of Campbell and Stanley (1963), although less desirable, was considered the most feasible. However, the exigencies of the situation precluded the possibility of recruiting a comparison group in the same manner as the program group had been recruited. Recruitment procedures utilized with respect to the second group do not justify an assumption of 'no treatment' but rather this group must be considered to have received a 'Hawthorne' type treatment. Such procedures also limited the opportunity to assess the role of situational variables. However, the amenities of the research situation precluded the same comprehensive testing of the second group as was possible with the program group.

Clearly the rationale of the study, including basic assumptions, was derived directly from the literature of psychology, education, social

psychology, and sociology. Thus it is to a more detailed discussion, evaluation, and synthesis of perspectives that attention in this report is now directed.

CHAPTER II

THEORETICAL AND EMPIRICAL EXPOSITIONS

The rationale and basic assumptions of the study reported herein were derived from a consideration of the literature with respect to the following areas: (a) psychological conceptions of maturity and developmental models of adulthood; (b) occupation and occupational socialization in relation to personality development and the development of competence; (c) the occupational ethos of teaching and the teachers, teacher socialization and the emergence of competence; and (d) the coordination of psychological development and teacher development.

Conceptions of Maturity and Developmental Models Encompassing Adulthood

Conceptions of maturity derive from both the formulations of personologists and developmental psychologists. The following constitutes a selective discussion of relevant formulations.

Fulfillment Models

Fulfillment theorists are concerned with the inherent tendencies of the organism which when unimpeded eventuate in psychological growth.

Rogers. A classical theorist in this area, Rogers (1959) conceives of an inherent pressure within the organism which moves him toward becoming whatever is inherent in his nature. In humans this tendency is termed 'self-actualization' and is defined as "the pressure to behave and develop --experience oneself--consistently with one's conscious view of what one is" (Maddi, 1968, p. 74). The sense of self, according to Rogers, is socially determined through interaction with others. Every person has an innate need for positive self-regard as well as positive regard from others, a situation which sometimes leads to conflict with his self-actualizing

tendencies (Rogers, 1961). To the extent that one distorts or denies his experiences because they conflict with his need for love and positive regard of others, his self-actualizing tendency is hampered and positive growth is impaired (Maddi, 1968).

The fully-functioning person, according to Rogers (1961) is characterized by an openness to experience, 'existential' living, organismic trust, and creativity.

Maslow. Like Rogers, Maslow (1954, 1968) believes that man has an innate motive to actualize himself, to realize his potentialities. However, man also has a more basic need, the need to ensure physical and psychological survival. These lower needs must be satisfied before the higher needs, the self-actualization or life enhancement needs, can strongly emerge. The higher one is able to proceed up the need hierarchy, suggest Maddi and Costa (1972), "the more individuality, humanity, and psychological health he will have".

It is the feeling of Maslow that self-actualization occurs only rarely and then usually in older persons. He observed self-actualizers to be characterized by: a realistic orientation; an acceptance of self, others, and the world; a spontaneity and straightforwardness in approach; high task orientation (rather than self-preoccupation); a sense of privacy; independence; appreciativeness; a spirituality (not necessarily religious); an identification with mankind; and feelings of intimacy. Additionally, such people tend to hold democratic values, are able to distinguish between means and ends, possess a marked sense of humor, are creative, and are non-conformists (Maslow, 1954).

White. 'Competence' motivation--the attempt to achieve competence in one's functioning--is for White (1959) the innate core tendency of personality. Similar to Maslow's higher needs, competence motivation refers to

pursuits that enhance life, and strong survival needs likewise are held to curtail competence motivation. In order to achieve fulfillment, according to White, man must seek competence and experience some measure of success in this search.

Allport. Somewhat like Maslow, Allport (1961) recognizes two inherent tendencies of man: functioning in a manner expressive of the self--propriate functioning, and functioning to satisfy biological needs--opportunistic functioning. It is propriate functioning which serves an organizing and integrating role and is an impetus to psychological growth. Different functions of the proprium (self) emerge at different ages and are modified throughout life in the direction of greater differentiation and integration (constituting growth). During development, given an environment not punitive or depriving, opportunistic functioning recedes in importance. Development continues into adulthood and, normally, signs of maturity are concomitant. Criteria of maturity, according to Allport (1961, pp. 283-304), include: extension of the sense of self (ego involvement, commitment); warm relation of self to others; emotional security (self-acceptance); realistic perception with respect to skills and assignments; self-objectification; insight and humor; and a unifying philosophy of life.

Thus, according to the fulfillment theorists, functioning in accord with 'enhancement' needs--the impetus to psychological growth--is contingent upon an unimpeding, supportive environment. With respect to change over the life span, Maddi (1972) summarizes their position in these words:

> When they consider the entire life-span, fulfillment theorists think in terms of a fairly continual developmental process such that personality changes throughout childhood, adolescence, and adulthood. The changes are generally considered to indicate progressively greater differentiation and integration, or psychological growth, at least when conflict and defense do not interfere. (p. 185)

The Course of Life: Seminal Theories

Freud. Although Freud posited no adult stage of development, his emphasis being on stability of personality after biological maturity, it is toward an understanding of adult functioning that Freud makes contribution. Firstly, according to Freud, early experiences form the foundation for the development of many personality traits which continue into adulthood. Secondly, his conceptions of two nonhealthy personality states--regression and fixation--have been of great significance in explaining less-than-mature functioning. Regression refers to a return to an earlier stage of psychosexual development and usually results from extreme physical or emotional stress. Fixation refers to arrested development, a result presumably of "an overinvestment of libido, which has come about through excessive gratification or deprivation and frustration of the person's needs" (Levy, 1970, p. 151). When fixation or regression occurs the individual's attitudes and behavior become dominated by the concerns and interests characteristic of the associated less-than-mature stage. The third significant contribution is that which is a basic assumption of psychoanalysis--

> Almost as blocked-up plumbing can be 'freed up' with Drano, when emotional difficulties are worked out during therapy, cognitive activity is 'freed up' so that the patient typically experiences a new capability to deal effectively with the world around him. (Rappoport, 1972, p. 69)

Jung. Like the fulfillment theorists, Jung believed that a prime motivating force in personality is to realize one's potential. The aim of a healthy personality is to achieve a kind of wholeness in which all parts of the personality are fully developed and harmoniously integrated. A key concept in this process, according to Jung (1933) is individuation (inter and intra system differentiation).

In one of the earliest theoretical life-stage formulations, Jung con-

conceived of two stages encompassing the period of adulthood. The first stage, youth (puberty to 35 or 40 years of age), was viewed as primarily involving an adjustment to reality and a widening of "the horizon of life". Characteristics of the period include: "sexual values, ascendent vital processes, physical energy, extraversion, impulse, vigor, and passion, along with a degree of dependence as the self is established in family and community" (Knox, 1977, p. 329). The second period, commencing at about age forty, was seen to involve a major change which seemingly arises in the unconscious and eventuates in either the emergence of new traits or the hardening of one's previous convictions and principles (Jung, 1933, pp. 12-13). Individuals at this stage are characterized as "less biological, vigorous, and impulsive and are more cultured and introverted. Self-actualization occurs as values are reevaluated, physical energy is displaced by psychic energy, vigor is replaced by wisdom, and the individual is tranformed into a spiritual man" (Knox, 1977, p. 329).

Buhler. Based upon a systematic study of biographies collected during the 1930's in Vienna, Buhler drew a parallel between the biological process of growth, stability, and decline and the psychosocial process of expansion, culmination, and contraction of endeavors. The two curves may not necessarily coincide; the biological curve might well precede an individual's psychosocial curve (Kimmel, 1974).

Later work by Buhler (1968) emphasized goal setting and the concept of self-fulfillment in the developmental sequence of life. During the first two decades goals are gradually established and lead, ideally, to self-fulfillment during the middle years. Frequently a reassessment of goals occurs at about age 40 to 45 and a subsequent striving for these new goals may occur before a shift to stability.

Kuhlen (cited in Kimmel, 1974), in a further elaboration of Buhler's

work, suggests that the growth-expansion motives of the fulfillment theorists seem to dominate the first half of life and result in an active, direct gratification of needs whereas with increasing age there is a shift to more indirect and vicarious gratifications. Such a shift may occur as a result of satisfaction of earlier needs which then allow for the emergence of other needs, or "it may result from physical or social losses, from the sense of being 'locked into' a situation or even from the changing time perspective that results from having lived over half of one's life" (Kimmel, 1974, p. 20).

Erikson. Often credited as the first comprehensive theory of the life span is Erikson's 'Eight Ages of Man' (Erikson, 1950, 1972). It is with the psychosocial development of the ego and ego identity that Erikson addresses himself. Development is characterized as a succession of interactional imbalances within the individual's personality structures and the environmental milieu (psychosocial crises). These conflicts, perennially present, become dominant at certain points and thus define stages. The stages are presented in the form of an 'epigenetic' chart (see Figure 1). Successful adjustment (readjustment) at each critical step leads to (a) a change in personality structures such that the person interacts differently with the environment in the future (although new imbalances and crises will occur) and (b) feelings of efficacy and confidence in the face of new challenges (Langer, 1969). Failures at one stage can be rectified by successes at later stages.

Addressing attention to the advanced levels of development, one notes the importance of successful stage 5 resolution--a sense of identity--as prerequisite to the successful resolution of the young adult crisis, 'intimacy versus isolation'. In order to establish intimacy with oneself (with one's inner life) and to develop the ability to share with others,

one must have some sense of who he is, where he has been, where he is going. If the individual learns to relate to others, he later becomes interested in establishing and guiding the next generation (stage 7); if not, he becomes self-centered and experiences a "pervading sense of stagnation and interpersonal impoverishment". Accrued ego integration leads to wisdom; marked deficit leads to despair, displeasure, disgust (stage 8).

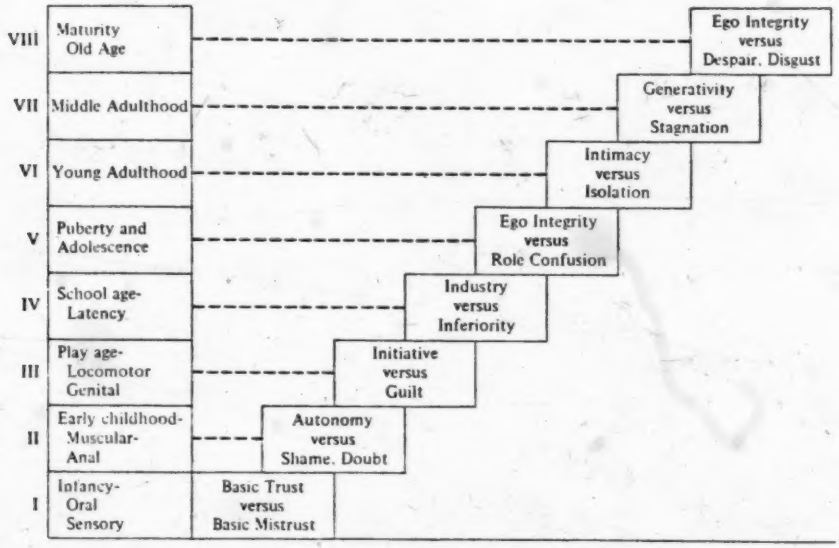

Figure 1. Epigenetic matrix of Erikson's 'Eight Stages of Man'. (Adapted from Erikson, 1972, p. 30.)

Failure to progress to the final stages is not uncommon. Fixation or refusal to change or face crises can occur either through the process of foreclosure (denial of crisis) or in the form of a prolonged moratorium (inability to resolve crisis). Both processes arrest development and result in behaviors typical of earlier stages.

The aforementioned theorists served to call attention to potentially salient transitions and behaviors in adulthood. While Freud served to heighten awareness of developmental arrest and the possibility of un-arresting development, Jung and Buhler charted a path for psycho-social

(life-style, age-stage) descriptions of life passage, and the more structural view of Erikson served as a precursor of ensuing structural ego and interpersonal competence theories. Attention in this review will now be directed toward these two approaches to adulthood, commencing with the life-style formulations.

Adult Life-Style Theorists

The last decade has witnessed a surge of interest in the study of adult life styles. For the purposes of this exposition, attention will be focussed on the period which encompasses the working years.

Neugarten. The role of age as a marker of stage is well articulated by Neugarten (1968). On the basis of data from the Kansas City study, which included 700 subjects between the ages of 40 and 90 years, Neugarten proposes that the content aspects of personality (the relatively external aspects) remain relatively stable across adulthood whereas the process aspects appear to change with increasing age. Visible by the mid-forties, there is thereafter an increasing tendency toward self-reflection and introspection--an increasing interiority of the personality. Thus with age there occurs a shift which involves a decreasing concern with external environmental constraints and an increasing focus on internal interests and inner dynamics. Concomitant with the middle-age shift is a shift in time perspective, from time lived to time left to live.

Lowenthal, Thunher, Chiriboga and Associates. In a first phase report of an ongoing longitudinal, cross-sectional study of four life phases--high school seniors, newly-weds, middle-aged parents, and pre-retirement adults--interview data have been analyzed by these researchers in an attempt to identify commonalities in personal characteristics and to investigate the significance of these characteristics with respect to individual adaptation across the life span. Toward this end, Lowenthal

and her associates (1975) developed a typology to reflect the structural dimensions of four life styles: complex (many roles, varied pattern of activities), simplistic (few roles, limited range of activities), diffuse (few roles, varied activity pattern), and focussed (wide role scope, narrow range of activity). Although these patterns were found to be distributed across the study groups, the sex distribution pattern was interesting. For newly wed men and women (mean age 25 and 23 respectively) the complex type was modal; for middle-aged men (mean age 52) the focussed style was most prominent whereas for middle-aged women (mean age 48) the simplistic style was modal but not markedly so. For preretirement men (mean age 61) the focused style was still somewhat modal; for preretirement women (mean age 58) the focused style was slightly modal with the simplistic and diffuse styles close behind. Also noted was half of the middle-aged and older group of men expressed a need to maintain a strict schedule which suggests, according to the researchers, that a certain degree of rigidity may be associated with a focussed style. With respect to interpersonal accommodation (submissive-assertive stances), males were found to be less accommodative than females; females being at their peak in accommodation during the young adult years. On measures of self-actualization, the young adults evinced more openness, curiosity, willingness and courage to experiment and change. The psychically complex (those high in resources and deficits) were termed "buoyant and expansive"--they engaged in a broader range of activites, had more complex goals, perceived as significant more events in their lives, experienced more important events, and perceived more stress in their lives than did the psychically simple who displayed constriction in many areas, experienced few significant events, and perceived few turning points in their lives. Future orientation and goal complexity tended to be low for the psychically simple.

Levinson. The lives of 40 males, ranging in age from 35 to 45 at study commencement, were probed by Levinson and his research team (Levinson, 1978). From the data they were able to identify 'eras', with accompanying growth periods, in the life of the adult male (see Figure 2). Such periods were identified on the basis of the developmental tasks that had to be performed at that particular time in life.

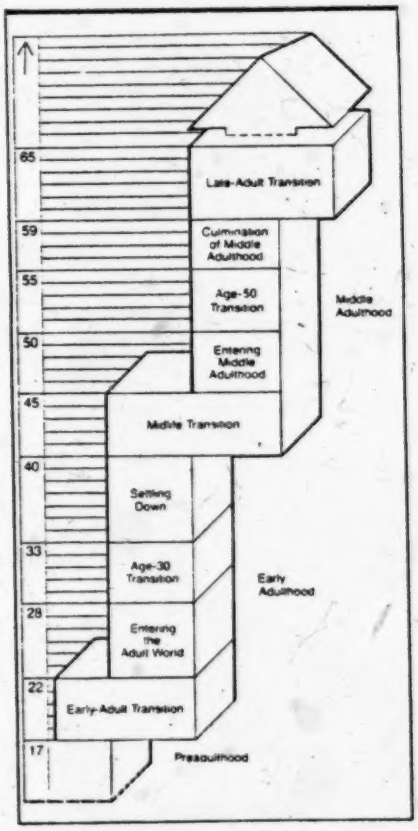

Figure 2. Levinson's eras of adult male development. (Levinson, 1969, p. 41.)

The periods encompassed by the years from approximately 17 through 33 were subsumed under the label 'novice' phase and are considered by Levinson to be most important in the course of adult life. Among the many developmental tasks common to this period, Levinson identified four as most important. The first task--and a core element in development--is that of

forming a Dream and giving it a place in the life structure. The Dream, says Levinson, "in its primordial form is a vague sense of self-in-the adult world. It has the quality of a vision, an imagined possibility that generates excitement and vitality" (1978, p. 21). At the start of the phase the Dream is "poorly articulated and only tenuously connected to reality". Of its importance, Levinson (1978) states:

> A young man's growth depends a good deal on whether his early life structure is consonant with, and infused by, the Dream--or is opposed to it. If the Dream remains unconnected to his life, it may simply die, and with it will die his sense of aliveness and purpose. (p. 22)

The second important task is that of forming a mentor relationship. The function of the mentor is to support and facilitate the realization of the Dream and to be a transitional figure--"one who fosters the young man's development from child-in-relation-to-parental-adults to adult-in-peer-relation-with-other-adults". The mentorship may vary in duration from 2 to 10 years.

The third task, that of transforming occupational interests into occupation, is a complex socio-psychological process which sometimes extends beyond the novice period. The fourth crucial task is that of forming a love relationship, including marriage and family.

Following the 'Age-30 Transition' there is a move toward new choices or there may occur a rededication to past choices. It is during the 'Settling Down' period (roughly age 33 to 40) that "a man works to fulfill his Dream, pursue his ambitions, and become the hero in the scenario of his youth". He then enters the 'Midlife Transition' (roughly age 40 to 45) when there occurs a reappraisal of his life--he questions every aspect and must face up to the revelations. It is a time of crises, according to Levinson. But it is also a time when a man experiences an urge to be creative, "to create products that have value for himself and others, to join in enter-

prises that advance human welfare, to contribute more fully to coming generations".

Gould and Sheehy. While Levinson's study was concerned with males only, Gould (1975), and in collaboration with Sheehy (1974), included women in their studies. Although Gould worked independently of Levinson there is a marked similarity in the periods each identified. In brief, according to Gould and Sheehy (1974), adult development proceeds in the manner of the following sequence, given a two year variable on each side of the age marker.

Age 16-22: Pulling up roots.

Age 22-29: Provisional adulthood--doing what one should to become adult and competent. (The task is often to create a balance between the impulse to build a strong life structure and a strong commitment and the urge to explore and experiment.)

Age 29-32: Age 30 transition--Question: What am I doing and why?

Age 32-39: Rooting--the time to widen horizons and stabalize; the focus is upon external goals.

Age 39-43: Mid-life transition--one becomes cognizant of the gap between one's dreams and their fulfillment.

Age 43-50: Restabalization and flowering--'human' experiences are highly valued.

Although individuals will vary in their timing of transitions, all will follow the same sequence. There is some suggestion (Sheehy, 1976) that females engage in the 'survey of life' stage earlier than do men--about age 35 as compared with age 40 for men.

Vaillant. The Grant study which followed a group of the 'best' Harvard men through their college days of the 1940's through their fifties for the purpose of studying their adaptation to life, found general affirmation of the Eriksonian life stages (Vaillant, 1977). To the period of the achieve-

ment of intimacy--which was deemed of great importance to subsequent growth--was added a second substage, 'career consolidation'. Vaillant states:

> From ages 25 to 35, they tended to work hard, consolidate their careers, and devote themselves to the nuclear family. Poor at self-reflection, they were not unlike their grammar school children; they were good at tasks, careful to follow the rules, anxious for promotion, and willing to accept all aspects of the system. (1977, p. 38)

Like Levinson, Vaillant notes that across this period an important inner process occurs--that of the "acquisition, assimilation, and final casting aside of nonparental role models or mentors", a process which becomes complete at about age 40. At 40 (plus or minus a decade) there occurs a reassessment and reordering of the truth as the individual becomes an explorer of the world within. Although it is a time of pain, the individual is now more able to acknowledge his own pain, he is less inhibited and now has a need to be of service to others. This process Vaillant refers to as a 'ripening' of personality.

By age 50 many of the men had assumed some level of leadership position and their careers had broadened. As noted by Vaillant:

> Instead of becoming more specialized and acquiring progressively more competence . . . they assumed tasks that they had not been trained for. Being truly responsible for others is no job for a specialist. (1977, p. 107)

Some fifty year olds were still wrestling with career consolidation. Those who had advanced were those who enjoyed the best marriages and who had cultivated rich friendships. Perhaps, suggests Vaillant, it is the more complex brain of the middle-aged adult (a product of continued myelinization) together with his increased experience that permit the emergence of more mature response patterns at this stage of life.

The aforementioned theories evince reflections of the seminal theorists and bear many resemblances to each other. Each includes a provisional stage

of adulthood--a novice phase--when an initial commitment is made to occupation, marriage, and family. Levinson, Gould, and Sheehy note an interim point where these initial commitments are examined and at times a subsequent redirection occurs. There follows then a 'settling down' phase where there occurs a purposeful striving for visible competence. Vaillant subsumes these phases under his early adulthood conformist stage. Levinson stresses the importance of the Dream which is reminiscent of Buhler's goal setting. The mentor aspect seems well established as a key aspect of the young adult period.

The mid-life transition at about 40 years of age is a common aspect of these theories. Characteristic of this point in life is an evaluation of one's aspirations and accomplishments and a shift to a more reflective, broader, more humanistic mode of thinking. Concomitantly there may be a rededication of life's purpose in line with these newly emerging needs. Not all adults reach this level, many are still struggling with problems of previous periods.

The role of crises in transitions is an integral part of these theories.

The relation of the growth enhancement and self-actualization needs to adult stages seems to have not yet been clearly conceptualized. Kuhlen (mentioned in this paper in connection with Buhler) feels that growth needs dominate the first half of life and there appears to be some support for this in Lowenthal's report that her young adult group rated higher on self-actualization measures than did the older subjects. Vaillant, however, would seem to suggest that real creativity and self-actualization is a manifestation of the mature fifties. (The dynamics of such needs over the life cycle appear to be intriguing and merit further study.) If there is validity to both of these positions then it is reasonable to suggest that there might be two peak periods of competence in a person's occupational

life: a narrow, specialized competence in the late twenties and thirties which seems motivated, in part, by egocentric concerns; and (for some) a more embracing, mature competence in the post forties which is motivated perhaps by more humanistic concerns (in the manner of Maslow's self-actualizers).

Clearly central to these formulations is the role of work in adult life-stage development.

Attention will now be addressed to a discussion of structural developmental theories encompassing the adult years.

Structural Theory: Some Precursor Models

The basic tenants of structuralism were formulated by psychologists who, in the main, did not differentiate the sphere of personality and cognition for the purposes of studying development. This section of the review will selectively focus only upon those theories which bear directly to ensuing theories of interest to the study at hand.

Werner. It was Werner's basic assumption that "psychological phenomena such as emotions, sensations, perceptions, and thought are all bound together in mental life" (Rappoport, 1972, p. 100).

Werner delineated several principles of development that have been highly influential in subsequent formulations. The most basic principle, his orthogenetic law (Werner, 1972, p. 47), states that development "proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration". The most differentiated, specialized, and internally integrated systems functionally subordinate and regulate lesser developed systems. Concrete (context-bound) conceptualization is genetically prior to abstract (context-free) conceptualization; lack of differentiation between subject and object precedes the state of polarity of subject and object. Later

states of development are characterized by greater organismic flexibility and freedom. Developmentally earlier modes of responding are continually present and may appear as supportive modes as when a person approaches a new problem through a developmental sequence of actions, or as a substitute for the more advanced modes (Langer, 1969, p. 93).

Werner posits the coexistence of 'fixity' (an intrinsic trend toward an end state of maximum stability) and 'mobility' (becoming) of levels of operations as polar principles of development. Once a certain stable level of integration is reached, the possibility of further development depends on "whether or not the behavioral patterns have become so automatized that they cannot take part in reorganization" (Werner, 1972, p. 53). In order for further development to take place, regression--"increasing dedifferentiation and disintegration of the higher organization of action systems"--must first occur (Langer, 1969, p. 92), or, as stated by Werner (1972, p. 52): "One has to regress in order to progress".

Piaget. The work of Piaget has proven to be most influential in subsequent cognitive developmental formulations.* Although he postulates no further stage beyond formal operations he has recently expressed interest in the "intellectual evolution from adolescence to adulthood".

According to Piaget, the inherent tendencies of the organism to organize and adapt result in a number of psychological structures which assume different forms or vary in a fairly regular sequence through development. The emergence of these differential psychological structures serves as the basis of Piaget's stage schematization. Equilibration, the theoretical complement of Werner's orthogenetic principle (Langer, 1969), is the tendency to balance the psychological structures and the requirements of the

*The reader's conversance with Piagetian theory is assumed since it is beyond the practical limits of this paper to present such an explication.

external world. When such a balance is attained, the structures are sufficiently developed and little exertion is needed to either accommodate or assimilate events. The time encompassing this dynamic balance is designated as a stage. The dialect of progressive differentiation and integration operates both between and within stages and increasing abstractness characterizes development.

According to Piagetian theory, stages have the following definitional features (Kohlberg, 1969, 1975):

1. There are qualitative differences in modes of thinking or of solving the same problem at different ages.
2. These different modes of thought form an invariant sequence in individual development.
3. Each of these different and sequential modes of thought forms a 'structured whole'.
4. Cognitive stages are hierarchical integrations (higher stages reintegrate and displace the structural characteristics of lower stages.

Lower structures, Piaget notes, do not disappear; they may continue to be used in appropriate contexts or when efforts at problem solving with higher structures fail. But there exists a hierarchical preference or disposition to prefer problem solution at the highest level available to the individual.

In reference to the problem of determining whether a structural change has occurred, Piaget suggests that the newly acquired behavior should be lasting, transferable, and fundamentally different from pre-existing behavior (Hunt, 1971a, p. 236). Kohnstamm (cited in Hunt, 1971a) adds that the new behavior should have been acquired with some difficulty and that it should prove resistant to extinction.

In Piaget's hierarchy, the final stage--formal operations--is normally attained, according to Piaget, between the individual's eleventh to

fifteenth year of life. Piaget understands the structural properties of formal operations to be based upon "a higher-order integration of logical groupings" (Rappoport, 1972). Thought at this level is flexible and multidirectional and tends toward involvement in abstract and theoretical concerns; hypothetico-deductive reasoning is available and the individual can now operate on operations (Ginsburg & Opper, 1969).

The transition to formal operations is not clearly explicated in Piaget's writings. He invokes the concept of equilibration and suggests a possible role of neurological development, but he sees the role of the environment as of most importance, in particular, education (Inhelder & Piaget, 1958). Although Piaget hints about the role of match of schemata with environment in promoting development, he does not address himself to an explication of the principle (Hunt, 1971a).

That all adults do not attain formal operational thinking, as determined by Piagetian tests, is attested to by recent empirical studies addressed to ascertaining the status of the structural abilities across the life span. Elkind (1962) found only 58 per cent of a college sample conserved volume, males being superior. Papalia and Del Vento Bielby (1974) found volume conservation to be at its highest level during middle age with 75 per cent of the subjects passing the task as compared with 50 percent of college-aged students. Tomlinson-Keasey (1972) found that attainment of formal operations by females (aged 11 to 54 years) was rare and seemed to be dependent on "available structures, experiences, and possibly even preference". Kohlberg and Gilligan (1971) in a study of 265 persons (aged 10 to 50 years) performing on the pendulum task suggest that there seems to be no further development of formal operations, as determined by this criterion, after age thirty. They state: "Fifty percent of American adults never reach adolescence in the cognitive sense" (p. 1065).

Piaget's response to such findings is encapsulated in his statement:

> All normal subjects attain the stage of formal operations or structuring if not between 11-12 to 14-15 years, in any case between 15 and 20 years. However, they reach this stage in different areas according to their aptitudes and their professional specializations (advanced studies or different types of apprenticeship for the various trades); the way in which these formal structures are used is not necessarily the same in all cases (1972, pp. 9-10).

Thus, formal operations are only free from concrete thought if "the situations involve equal aptitudes or comparable vital interests".

Kelly. Though lacking a developmental aspect, the personal construct theory of Kelly (1955) would seem to contribute toward a theory of personality change in adults.

In Kelly's personological view of "man the scientist", intellectual processes are of central significance in man's overall behavior; man is continuously, actively trying to make sense of his world of experiences. He creates "transparent patterns or templets" (personal constructs) and "attempts to fit these over the realities of which the world is composed". Kelly's construct, according to Hjelle and Ziegler (1976. p. 217), is "a category of thought by which an individual construes or interprets" his personal experience. Through the temporal process of experiencing, interpreting, and structuring--i.e. construing--experiences are generalized in an orderly and meaningful manner. Thus, Kelly's fundamental postulate: "A person's processes are psychologically channelized by the ways in which he anticipates events" (1955, p. 46).

Constructs, according to Kelly, are validated in terms of their predictive efficiency; they are subject to elaboration in the direction of either definition or extension; and they become organized into a personal hierarchical system in terms of subordinate and superordinate constructs.

Kelly identifies different types of constructs. 'Preemptive' constructs

--with frozen, exclusive membership--and 'constellatory'--with frozen realm membership enable stereotyped, unchanging thinking whereas 'propositional' constructs are open to alternatives. All three types are considered necessary to construe events. Additionally, constructs can be 'comprehensive'--subsume a wide spectrum of events--or 'incidental'--subsume a small range of events. There are 'core' constructs which govern a person's basic functioning and 'peripheral' constructs which can be altered without effecting the core structure. Some constructs are 'tight' and lead to unvarying prediction; others are 'loose' and lead to different predictions under similar conditions.

One important formal property of constructs is their degree of 'permeability-impermeability'. A permeable construct "admits to its range of convenience new elements not yet construed within its boundaries"; an impermeable construct, "while embracing events that make up its original formulation, remains closed to the interpretation of new experiences" (Hjelle & Ziegler, 1976, p. 55).

Persons thus differ, according to Kelly, with respect to their construction of events and the way in which their constructs are organized. Only by knowing the person's mode of organizing constructs can one make meaningful statements about his behavior.

Effective interpersonal interaction, according to this theory, requires that one be able to put himself into the shoes of another person in order to understand and predict the other's behavior.

As noted by Hjelle and Ziegler (1976), according to Kelly's conceptualization, if one could change one's constructs, one could change one's life. Kelly postulated that a construct system change occurs most often when the individual is exposed to novel or unfamiliar events which do not

conform to his existing system of constructs. Experiential feedback leads to a modification of constructs which in turn are used as new hypotheses to progressively change the system. The degree of construct permeability will be a modulating factor in change; the more permeable the superordinate constructs, the greater the amount of variation or systematic change within the substructures. If the person has no superordinate constructs for construing change, then change cannot occur within his system and he remains psychologically rigid.

In passing, one notes that Kelly's 'man the scientist' model appears to be somewhat of a cognitive analogue to White's model of competence motivation.

Having thus discussed some of the basic tenants of structural developmental theory, attention in this review will now be directed to successor models, commencing with ego and interpersonal formulations.

Interpersonal and Ego Structural Developmental Models

Sullivan, Grant, and Grant. Based upon the assumption that individual differences in character are largely differences in relative maturity, Sullivan, Grant, and Grant (1957) developed a characterology of levels of interpersonal integration (see Table 1).

The core structure of personality, which serves an organizing function, is comprised of "experience, needs, expectations, and perceptions", all in some more or less integrated cognitive scheme (Loevinger, 1977). With development the individual not only becomes more differentiated but also, and because of the tendency to try to assimilate new stimuli in such a way as to minimize cognitive reorganization, he becomes more simplified and integrated. The consistency and stability of the core personality is evinced when under conditions of stress, superficial need demands disappear

Table 1

Sullivan, Grant, and Grant's Levels of Interpersonal Maturity and Adult Functioning

Level	Characteristic Adult Functioning
1. Integration of Separateness: discrimination of difference between self and nonself	Unidimensional thinking; generalized anxiety; difficulty in coping, postponing, establishing authority, distinguishing real-unreal, and in dependency relations; passive
2. Integration of Nonself Differences: environment differentiated into persons and objects; minimal appreciation of others	Perceives people as (a) aides or barriers to own satisfactions, and (b) differing only slightly from objects; manipulates; may be overtly aggressive or may conceal resentment through withdrawal or compliance; feels greatly misunderstood
3. Integration of Rules: perceives rules and formulae governing relationships between people and objects; senses potential for complex manipulation	Views world as a series of rigidly organized, rule-bound relationships; concerned with control and may respond by constantly testing or conforming; threatened by perceptions of adequate others
4. Individuation of Response*	Characterizes self as different from the norm and from specific people
5. Integration of Continuity: perceives stable action patterns in self and others	Relates to others empathically, enjoys others; anxious under conditions of role ambiguity
6. Integration of Self-Consistency: perceives differences between self and one's social role	Defines roles in terms of relationships and interactions with others; self is perceived as distinct from any specific relationship with others and as an enduring stable organism
7. Integration of Relativity, Movement, and Change: perceives integrating processes in self and others	Conceives of a variety of ways of perceiving and integrating; empathizes with less mature modes of others

* Based upon a revised characterization of this level as reported in Loevinger (1976).

and core personality need demands emerge. For example, under personal stress alturistic behaviors many be replaced by egocentric, self-protective activity.

Development is described in terms of seven stages, each of which, like Erikson's, is defined in terms of a problem, in this case an interpersonal problem which must be solved before development can continue. Solution at each level involves a cognitive restructuring of experience and expectancy and results in the evolution of a new reference scheme and a new level of integration. The characteristics of the prevailing organzation at each level influence the potential for change and the direction, intensity, and character of reorganization at the succeeding level. With advancement, the person becomes better able to view himself and the world more accurately and functions more effectively.

As in the Eriksonian conception, all persons do not reach maturity as defined by the model but may become fixed at a particular integration level. Intensive and chronic threat or stress leads to the adoption of a variety of defenses to maintain the status quo and, over time, a characteristic pattern or 'style of life' is established. Characteristic adult functioning at each level of integration is briefly described in Table 1.

On the basis of the model, Grant, Warren, and Turner (1963) have elaborated and tested with adjudicated delinquents a differential treatment model which matches level of interpersonal maturity with characteristics of the treatment worker. Low maturity subjects are matched with tolerant, supportive, protective workers; medium level subjects with firm, conwise, willing-to-punish workers; and high level subjects with wise, understanding, and warm workers.

Loevinger. A composite of many predominant views, the structural stage model of Loevinger conceptualizes the sequence of ego development in

terms of coping with increasingly deeper problems at each stage. The stages are marked by milestones which are defined as "observable behaviors that tend to rise and fall in prominence as one ascends the scale of ego maturity" (Loevinger, 1966, p. 202). Each stage "builds on, incorporates, and transmutes" the previous stage.

Although the model, detailed in Table 2, is free of age-specific contingencies, this discussion will commence with the second stage, the Self-Protective. An adult who remains at this stage may, according to Loevinger (1976), be "opportunistic, deceptive, and preoccupied with control and advantage". The extremely externally-oriented person of the Conformist stage obeys rules because they are group accepted and out of a desire to avoid disapproval. For him, there is security in belonging. He is particularly prone to stereotyped conceptions of roles and is much concerned with externals. The Conscientious-Conformist, which Loevinger prefers to label a transition level (rather than stage), is marked by increased self-awareness and the perception of exceptions and alternatives. The person evinces a number of pseudotraits (midway between group stereotypes and appreciation of individual differences). Loevinger feels that this level is modal for adults in present society.

At the Conscientious stage the internalization of rules is completed and the person evaluates and chooses rules for himself; he shows responsibility for others; he sees himself as the "origin of his own destiny"; he aspires to achievement (as measured by his standards); his inner life is richer and more differentiated; and his thought categories are more differentiated. A second transitional level, the Individualistic, is marked by "a heightened sense of individuality and a concern for emotional dependence". People relations are seen as partly antagonistic to the

Table 2

Loevinger's Milestones of Ego Development

Stage	*Impulse Control, Character Development*	*Interpersonal Style*	*Conscious Preoccupations*	*Cognitive Style*
Presocial		Autistic		
Symbiotic		Symbiotic	Self vs. non-self	
Impulsive	Impulsive, fear of retaliation	Receiving, dependent, exploitative	Bodily feelings, especially sexual and aggressive	Stereotyping, conceptual confusion
Self-Protective	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitative	Self-protection, trouble, wishes, things, advantage, control	
Conformist	Conformity to external rules, shame, guilt for breaking rules	Belonging, superficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual simplicity, stereotypes, cliches
Conscientious-Conformist	Differentiation of norms, goals	Aware of self in relation to group, helping	Adjustment, problems, reasons, opportunities (vague)	Multiplicity
Conscientious	Self-evaluated standards, self-criticism, guilt for consequences, long-term goals and ideals	Intensive, responsible, mutual, concern for communication	Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression	Conceptual complexity, idea of patterning
Individualistic	*Add:* Respect for individuality	*Add:* Dependence as an emotional problem	*Add:* Development, social problems, differentiation of inner life from outer	*Add:* Distinction of process and outcome
Autonomous	*Add:* Coping with conflicting inner needs, toleration	*Add:* Respect for autonomy, interdependence	Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity
Integrated	*Add:* Reconciling inner conflicts, renunciation of unattainable	*Add:* Cherishing of individuality	*Add:* Identity	

NOTE: "*Add*" means in addition to the description applying to the previous level.

Source: Adapted from Loevinger (1976), pp. 24-25.

striving for achievement. Greater conceptual complexity along with notions of psychological causality and psychological development characterize modes of thinking. The Autonomous stage is marked by the capacity to "acknowledge and to cope with inner conflict". There is a high toleration for ambiguity; increased conceptual complexity; cognizance of others' need for autonomy; and the embracing of "broad, abstract social ideals".

The highest stage, the Integrated, is marked by a consolidation of the sense of identity. This stage, according to Loevinger and Wessler (1970), is comparable to the heights of Maslow's self-actualizers and is realized by few--about one percent of the population.

A measurement scale has been devised by Loevinger and Wessler (1970) for the purposes of indexing ego development.

There appears to be a basic compatability emerging between characterizations of maturity as espoused by fulfillment theorists, the course of adult development as detailed from a psychosocial perspective, and the formulations of the structuralists thus far discussed. Such theories are of considerable value in the attempt to define (describe) adult psychological maturity and toward an understanding of adult behavior. What is absent from these models is a theory of change, a model for the inducement of further development in prematurely arrested adults. It is in the area of cognitive structural developmental theory that advances have been made in this respect and it is to a consideration of these theories that attention will now be addressed.

Cognitive Structural Developmental Models

Kohlberg. Stimulated by Piaget's genotypic approach to cognitive development and in particular his work on moral devlopment (Piaget, 1932), Kohlberg (1958) elaborated a classical structural theory of the develop-

ment of moral maturity. Stages were delineated on the basis of an analysis of the underlying processes and structural organization of responses to moral dilemmas. Kohlbergian stages, like those of Piaget, are regarded as being qualitatively distinct, forming 'structured wholes', being of invariant sequence, and being hierarchically integrated. The core of each stage is a conception of justice which serves to organize patterns of role-taking in situations of moral conflict. It is the development of this core which gives rise to stage development as detailed in Table 3.

According to Kohlberg, advanced logical reasoning is a necessary but not a sufficient condition for advanced moral judgment since most people measure higher on logical stage (Piagetian) than on moral stage. Tomlinson and Keasey (1972) found a strong relationship between formal operations and moral development.

With respect to stage transition, Kohlberg, like Piaget, places central emphasis upon 'logico mathematical' experience--"a person's active interaction with his environment, in which he or she applies and checks the use of his various schemes of action and representation" (Tomlinson, 1974)--and the equilibration process.

Kohlberg and Kramer (1969) originally held that stage 5 principled thought was an adolescent accomplishment with the crystallization of stage 6 thinking taking place in the early twenties. Any subsequent development was considered to be a matter of dropping childish modes and thus increasing the consistency of responses rather than the formation of new or higher modes of thought. However, faced with difficulties in explaining findings where individuals who had displayed principled thinking in high school (as measured by the Moral Judgment Scale) seemingly retrogressed to a "skeptical egocentric relativism" in early college

years and then later returned to principled thinking, led Kohlberg to a reconsideration of the concept of regression.

Adopting the conception of Turiel (1969) that "the apparent regression involved in stage development is a disequilibrium of transition very different than the disorganization or dedifferentiation involved in regression", Kohlberg (1973) decided that his college retrogressors should have been labeled stage $4\frac{1}{2}$, a transitional stage to principled

Table 3

DEFINITION OF MORAL STAGES

I. PRECONVENTIONAL LEVEL

At this level, the child is responsive to cultural rules and labels of good and bad, right and wrong, but interprets these labels either in terms of the physical or the hedonistic consequences of action (punishment, reward, exchange of favors) or in terms of the physical power of those who enunciate the rules and labels. The level is divided into the following two stages:

STAGE 1: The punishment and obedience orientation. The physical consequences of action determine its goodness or badness regardless of the human meaning or value of these consequences. Avoidance of punishment and unquestioning deference to power are valued in their own right, not in terms of respect for an underlying moral order supported by punishment and authority (the latter being Stage 4).

STAGE 2: The instrumental relativist orientation. Right action consists of that which instrumentally satisfies one's own needs and occasionally the needs of others. Human relations are viewed in terms like those of the market place. Elements of fairness, of reciprocity, and of equal sharing are present, but they are always interpreted in a physical, pragmatic way. Reciprocity is a matter of "you scratch my back and I'll scratch yours," not of loyalty, gratitude, or justice.

II. CONVENTIONAL LEVEL

At this level, maintaining the expectations of the individual's family, group, or nation is perceived as valuable in its own right, regardless of immediate and obvious consequences. The attitude is not only one of *conformity* to personal expectations and social order, but of loyalty to it, of actively *maintaining*, supporting, and justifying the order, and of identifying with the persons or group involved in it. There are the following two stages:

STAGE 3: The interpersonal concordance or "good boy—nice girl" orientation. Good behavior is that which pleases or helps others and is approved by them. There is much conformity to stereotypical images of what is majority or "natural" behavior. Behavior is frequently judged by intention—"he means well" becomes important for the first time. One earns approval by being "nice."

STAGE 4: The "law and order" orientation. There is an orientation toward authority, fixed rules, and the maintenance of the social order. Right behavior consists of doing one's duty, showing respect for authority, and maintaining the given social order for its own sake.

III. POSTCONVENTIONAL, AUTONOMOUS, OR PRINCIPLED LEVEL

At this level, there is a clear effort to define moral values and principles that have validity and application apart from the authority of the groups or persons holding these principles and apart from the individual's own identification with these groups. This level again has two stages:

STAGE 5: The social-contract legalistic orientation, generally with utilitarian overtones. Right action tends to be defined in terms of general individual rights and standards which have been critically examined and agreed upon by the whole society. There is a clear awareness of the relativism of personal values and opinions and a corresponding emphasis upon procedural rules for reaching consensus. Aside from what is constitutionally and democratically agreed upon, the right is a matter of personal "values" and "opinion." The result is an emphasis upon the "legal point of view," but with an emphasis upon the possibility of changing law in terms of rational considerations of social utility (rather than freezing it in terms of Stage 4 "law and order"). Outside the legal realm, free agreement and contract are the binding elements of obligation. This is the "official" morality of the American government and Constitution.

STAGE 6: The universal ethical principle orientation. Right is defined by the decision of conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality, and consistency. These principles are abstract and ethical (the Golden Rule, the categorical imperative); they are not concrete moral rules like the Ten Commandments. These are universal principles of *justice*, of the *reciprocity* and *equality* of human *rights*, and of respect for the dignity of human beings as *individual persons*.

Source: Kohlberg and Elfenbein, 1975, p. 620.

reasoning. The relabelling was accomplished by revising the scoring system of the Moral Judgment Scale to reflect more directly the structure rather than the content of moral thought. A reanalysis revealed that none of the subjects of his current longitudinal study under 23 years of age displayed true stage 5 thinking and, as yet, none of the subjects as of age 30 had attained predominantly stage 6 thinking. Kohlberg (1973) now holds that fully-principled thinking is an adult development typically not reached until the late twenties or later.

Such reconsiderations led to a reconsideration of the context of change to principled thinking. The context believed conducive to earlier stage changes involves an exposure to reasoning one stage higher than the subject's current level within the context of situations posing problems and contradictions to the resident structure. In an atmosphere of open interchange and dialogue, the situation generates self-dissatisfaction with the current level and leads to the adoption of the more advanced level. Whereas these earlier stages represent increasingly more adequate perception of the social system, principled thinking, says Kohlberg, is a "postulation of principles to which society and the self ought to be committed" (1973, p. 194). Thus, a different kind of experience seems required for progression to this level.

Noting research by Blatt who by using the 'optimal mismatch' technique (described above) failed to move high school stage 4's to stage 5 and by comparing this with research by Boyd who was successful in moving 40 percent of first and second year college stage 4's to stage 5, Kohlberg conjectures that important for transition to principled thought are "personal experiences of choice involving questioning and commitment, in some sort of integration with stimulation to cognitive-moral reflection" (1973, p. 196). Thus, according to Kohlberg, social maturity in terms of independence and

self-accountability plus the stimulation to reflect would seem to constitute necessary preconditions for transition to principled thinking.

Potential for change seems rather uncharted by Kohlberg. Turiel (1969), who has addressed this question, suggests that a high degree of stage mixture is an index of change potential, a low degree of mixture (i.e. consistency) would indicate a low potential for developmental change.

Empirical work using Kohlberg's instrumentation to index level of moral development finds few persons at the more mature stages; stage 4 appears to be the modal population level.

Both Loevinger (1976) and Kohlberg (1973) have indicated possible stage correspondences between their two models. Chickering (1976) suggests the following associations (see Table 4):

Table 4

Phases of Ego Development

Associated With Moral Development

Ego Development Stages					
Presocial Symbiotic	Impulse-ridden, fearful	Self-protective	Conformist	Conscientious	Autonomous Integrated
Moral Development					
Egocentric	Obedience-punishment oriented	Instrumental egoism and exchange	Good-boy, approval oriented	Authority, rule, and social order oriented	Social contracts, legalistic oriented Moral principle orientation

Source: Adapted from Chickering (1976), p. 72.

Lambert (1972) found that individuals who scored high on Loevinger's ego development measure also scored high on Kohlberg's instrument.

Although Kohlberg's model is amenable to empirical study through the use of the Moral Judgment Scale, his explication of change inducement in adult subjects at this point lacks the necessary adequacy required for

guiding attempts at adult development. It is, however, a pregnant source of suggestion relevant to adult development.

Conceptual Systems Theory. A synthesis of the cognitive and the affective constituents of personality is found in the eclectic approach of Harvey, Hunt, and Schroder (1961) to personality development and organization. Focusing upon concepts as links or intervening media, conceptual systems theory emphasizes the structural components, the networks or groups of concepts, which underlie evaluation and response to stimuli and the adaptive function which these serve the individual. Structure and function are assumed to be interdependent. The most important structural characteristic is the degree of concreteness or abstractness, a point reminiscent of Werner and Piaget. The self, in this formulation, is defined as "the intertwined totality of one's concepts" (1961, p. 6).

Classified as an interactional theory, and clearly rooted in the seminal conceptions of Kelly and Piaget, the formulation assumes that concepts develop out of experience with the environment--this experience being partly determined by the nature of the environment and partly by the internal state of the person.

Development represents progression along a continuum toward greater abstractness. Increasing abstractness "assumes an increased availability of alternative concepts for coping with the same stimuli"; causality becomes less attributed to external forces and more attributable to one's own transactions with the environment. More abstract thought as opposed to concrete functioning is characterized by:

> Differentiation between the outer and inner worlds in the ego and experience . . . . Assumption of a mental set wilfully and consciously . . . . Accounting for one's acts to oneself or to others and verbalizing the act . . . . Ability to shift reflectively from one aspect of the situation to another . . . . The simulataneous holding in mind of various aspects . . . . Grasping the essentials of a

> given whole, breaking it up into parts, isolating and synthesizing them . . . . Reflective abstraction of common properties and the formation of hierarchic concepts . . . . Planning ahead ideationally and the assumption of the attitude of 'the mere possible'. (Harvey, et al., pp. 28-34).

Development of conceptual systems is viewed in terms of four hierarchically ordered stages of fixed order, regardless of age (Harvey et al., 1961, pp. 94-100).

Stage 1: Unilateral dependence. Concepts are undifferentiated and functioning is sensitive to external control; thinking is very concrete and behavior is geared to reality.

Stage 2: Negative independence. Concepts are not highly articulated; efforts are directed towards self-assertion and definition of self by establishing the borderline between the self's authority and that of others and through questioning of external control and avoidance of dependence.

Stage 3: Conditional dependence and mutuality. Self becomes separate from the outside world; conceptual systems are open to new data; empathic behavior or mutuality increases; locus of causality shifts to one's own behavior.

Stage 4: Interdependence. External and internal standards are integrated in a union of positive interdependence; functioning is characterized by abstractness; a bank of concepts become available; mutuality and autonomy are now integrated.

Progress from one stage to the next is contingent upon the process of differentiation and integration. As described by Rappoport (1972):

> The individual at a given stage of conceptual development will, under normal conditions, recognize the limits of that stage because of contradictions or inconsistencies in his conceptual system. This forces him to differentiate elements in the system, to examine them more carefully in an effort to resolve the difficulty. And such differentiation eventually leads to a new integration--a rearrangement of elements in the system such that the former confusions are corrected. (p. 106)

Movement along the concrete-abstract continuum proceeds if the environmental conditions "facilitate openness to the discrepant

conceptual orderings or differentiations required for progression" but if "environmental pressures are out of synchrony with the conceptual structures required for the emergence of a more abstract synthesis, fixation or arrestation of development occurs" (Harvey et al., 1961, pp. 87-91).

Since the 1961 joint publication, each contributor (along with his colleagues) has emphasized and further elaborated distinctly specific dimensions of the original theory. Harvey (1966, 1967) has concentrated on the motivational (system-specific content) and environmental characteristics (training agents) whereas Schroder (1971; Schroder, Driver, & Streufert, 1967) and Hunt (1966, 1971b) have emphasized information processing and integrative complexity. Hunt (1971) has concentrated as well upon the development of a matching model for the purpose of optimizing the development of integrative complexity.

Harvey. The position of Harvey has evolved little from the original statement. Holding with a posited relationship between an individual's level of abstractness (structural variation) and the content of his more central concepts, Harvey (1966, 1967) has formulated four self-systems which, with the exception of having incorporated an etiology of child-rearing, closely resemble the parent model of Harvey, Hunt and Schroder.

Based on data from a series of studies, Harvey concludes that the following are characteristic of concrete system functioning (the reverse of each would characterize greater abstractness): simple, relatively undifferentiated and incompletely integrated cognitive structures; categorical thinking; high dependency upon external cues and authority as guides to action; an intolerance of ambiguity; a great need for cognitive consistency and reduction of cognitive dissonance; inability to change set, stereotypic solution of complex problems; has available a paucity of

problem solutions; insensitive to "subtle and minimal cues" and highly susceptible to false, obtrusive cues; limited capacity to "act as if" or assume the role of the other; is opinionated; scores high on dicatatorialness and manifests the relevant behavioral characteristics; scores low on task orientation; and forms generalized impressions of others from incomplete information (1967, pp. 206-207). Concrete systems, according to Harvey (1966), have a low threshold for warding off or excluding incompatible information and thus are relatively closed whereas more abstract systems, having a higher threshold for such information, are open systems.

Schroder. Emphasizing the information processing aspect of conceptual systems, Schroder has focussed upon 'integrative complexity'--"the number and connectedness of conceptual or 'integrating' rules used for organizing information in thinking, judging, valuing" (Schroder, 1971, p. 240). The information processing model consists of two interdependent components: dimensions, "which classify the content of thought and the kinds of discriminations possible by the person", and integrating rules, "which determine how information will be processed, received, stored, and acted upon" (Levy, 1970, p. 285). Basic to the elaboration of integrative complexity is the person's ability to differentiate (locate stimuli along dimensions) and to integrate (to utilize complex rules, or programs, to combine these dimensions (Goldstein & Blackman, 1978). Although the number of dimensions is not necessarily related to the integrative complexity of the individual, the probability of more complex combinatorial rules increases with a greater number of available dimensions, the relationship being curvilinear (Schroder, 1971).

Combinatorial power, expressed as an integration index, increases with progression along the concrete-abstract continuum and organizational development proceeds through universal stages "from categorical single

dimensional valuing and thinking through multidimensional single rule structure, multidimensional multirule (unconnected) structure, to multi-dimensional multiconnected combinatory rule structure" (Schroder, 1971, p. 263), as shown in Figure 3.

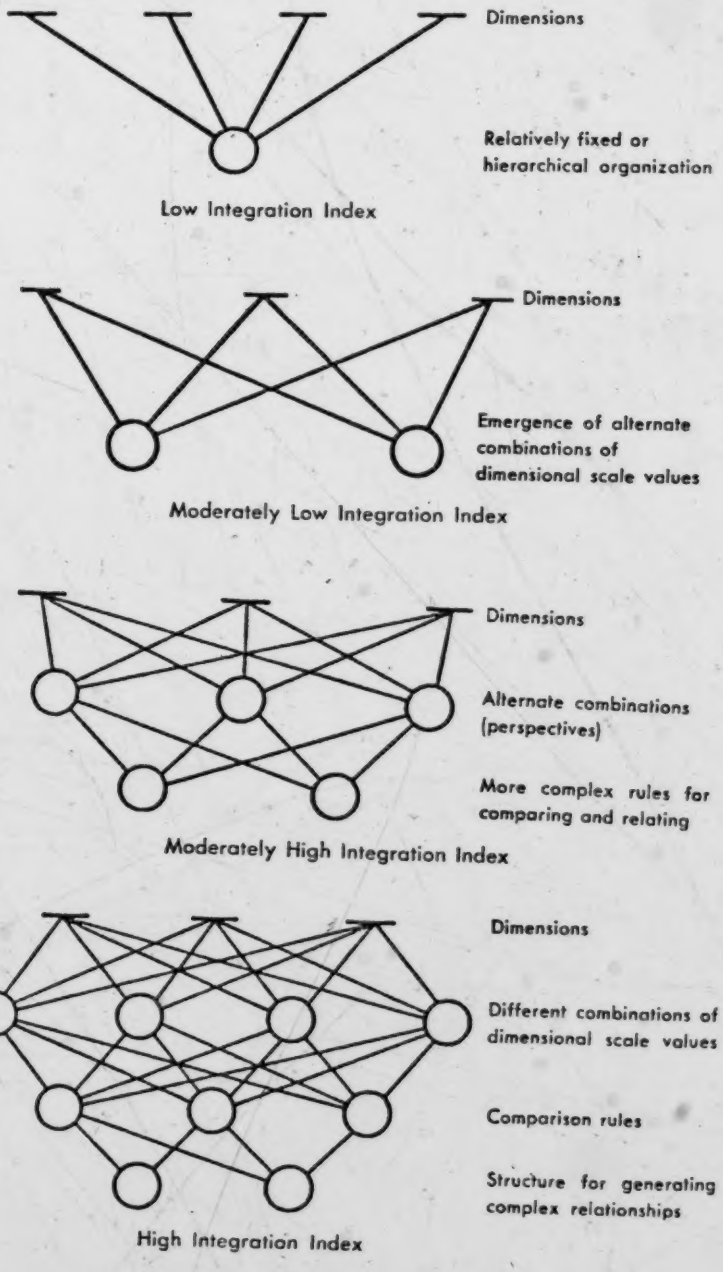

Figure 3. Diagrams of levels of integrative development. (Schroder, Driver, & Streufert, 1967)

Whereas a low integrative index is associated with bifurcated thinking, externality, absolutistic standards, lack of conflict, inability to "act as if", and general rigidity; a high integrative index is associated with more degrees of freedom in the integrative process, less certainty, the ability to apply laws in organizing large bodies of information, a theoretical outlook, ability to deal with diversity, greater discrimination and potential for the generation of new schemata in the absence of new external input. Such descriptions seem in accord with the parent model and with Harvey's current work.

According to Schroder (1971), the learning of categories or dimensions is explicable in terms of classical learning principles but how the individual organizes scale values of information is a product of the type of environment provided for organizational learning. He characterizes such environments as ranging on a continuum from unilateral, agent determination of combinatorial rule and agent control of behavior, to interdependent, self-generation of combinatory rules and goals with distinctive feedback provided and encouragement to use the same information in different ways. Whereas unilateral, overpowering, or stressful environments lead to arrestation of conceptual organization at lower levels, interdependent, inductive environments promote development through the stages. Long term training effects in a domain are seen to result in the development of relatively stable dispositional information processing structures.

With respect to the possibility of inducing further development in arrested individuals, results are cited from two studies--Lee and Carrington (Schroder, Karlins, & Phares, 1973)--in which training directed toward increasing the number of dimensions and training directed toward increasing the number of different concepts used both resulted in score increments

on the Paragraph Completion Test (Schroder's measure of integrative complexity). Schroder optimistically states:

> It is our contention that despite certain genetic limits, this ability (information-processing ability) is modifiable and can be developed--even in adults--given appropriate environments. (1973, p. 43)

Contemporaneous functioning is dependent upon the interaction of dispositional and situational factors; the posited relation between the two as shown in Figure 4.

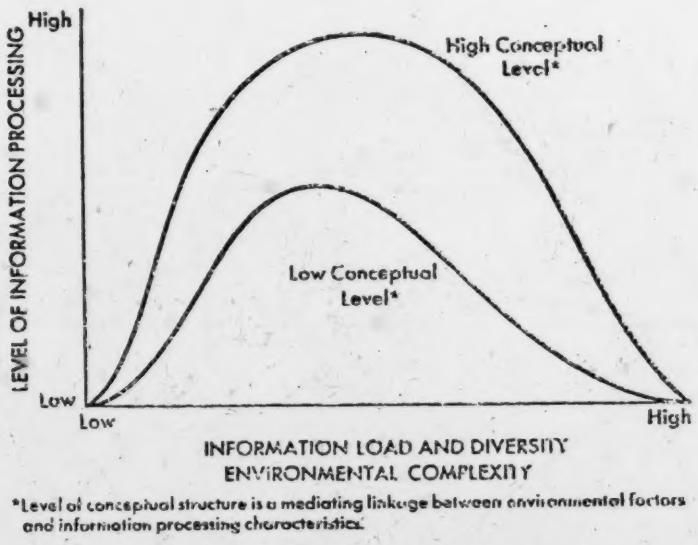

Figure 4. Conceptual level expressed as an interaction between dispositional and situational factors. (Schroder, 1971, p. 264.)

Hunt. Conceptual level (CL) is used by Hunt (1975a, 1977) as an index of cognitive complexity (discrimination, differentiation, and integration--as in Schroder's model) and interpersonal maturity (self-definition and self-other relations--as reminiscent of Sullivan, Grant & Grant).

Subsequent to the 1961 joint publication, studies undertaken by Hunt (1966) and his colleagues led to a slight revision of the parent model. He found it necessary to add a very low stage, termed Sub-1. Further, he became convinced that the motivational orientation of the original stage 3

did not constitute a stage. Hunt's published model (1971b, 1975b) elaborates three stages of development; his manual for Assessing Conceptual Level by the Paragraph Completion Method (Hunt, Butler, Noy, & Rosser, 1977) includes a transitional level between the second and third stages (see Table 5). CL development is viewed as continuous under ideal conditions; stage designations function only as "anchor points" to facilitate understanding of the process (Hunt & Sullivan, 1974). Developmentally, Hunt (1975a) conceives CL in terms of "increasing conceptual complexity, increasing interpersonal maturity, and increasing understanding of oneself and others (p. 222). Higher level functioning is considered desirable in that:

> A person at a higher Conceptual Level is more structurally complex, more capable of responsible actions, and, most important, more capable of adapting to a changing environment than a person at a lower Conceptual Level. (Hunt, 1975b, p. 187)

Table 5

Hunt's Conceptual Level Developmental Model

Stage	Characteristics
A (Sub I)	Impulsive, relatively unsocialized, self-centred, inattentive, defensive
B	Compliant, dependent on authority; concerned with rules; thinking is polarized, dichotomous
Transitional	Entertains ideas of others and considers alternatives but does not integrate these in the problem solution or decision; concerned with his inner thoughts and feelings; strives for independence
C	Ponders alternatives before finalizing decisions; shows sensitivity to others by seeking compromise but not at the expense of his own values, principles, or beliefs; accepts responsibility for the consequences of his decisions

The work of Schroder (as reviewed previously) seems to lend validity to the above interpretation. Additionally, Suedfeld (1964) has demonstrated that high CL persons are more capable of resisting indoctrination

(or more stress tolerant) than low CL persons. Wolfe (1963) found that high CL persons were better able to look at a problem from a variety of viewpoints.

There is some evidence for a stage-age relation in that in the population of 12 to 18 year olds studied by Hunt, the proportion of Stage A decreased and the proportion of Stage C persons increased with age.

Sullivan, McCullough and Stager (1970) found a significant relation between CL and moral judgment scores and also between CL scores and Loevinger's ego levels in a teenage population.

Hunt adopted and elaborated the B-P-E (Behavior-Person-Environment) paradigm of Lewin (1935) to serve as the model for his interactive view and as the basis of his matching model. The basic dimension of environmental variation in this model is the degree of structure, or the degree of organization provided by the environment. His definition of the degree of structure is as follows:

> In high structure, the environment is largely determined by the training agent . . . while the person himself . . . has little responsibility for what happens in that environment. In low structure, by contrast, the person experiencing the environment is at least as important in determining the environment as is the training agent. (Hunt & Sullivan, 1974, pp. 213-214)

Hunt posits the person-environment match in the following manner:

> Given the characteristics of low CL persons (dependent on external standards and incapable of generating their own concepts), they should profit more from a highly structured approach. Given the characteristics of high CL persons (capable of generating new concepts and holding internal standards), they should either profit more from low structure, or be unaffected by variations in structure. (Hunt, 1975b, p. 187)

In terms of educational practice, or current learning, Hunt uses the term 'learning style' to describe the student's CL and defines it in terms of how much structure a student needs in order to learn best. Figure 5 is a summary of this conception.

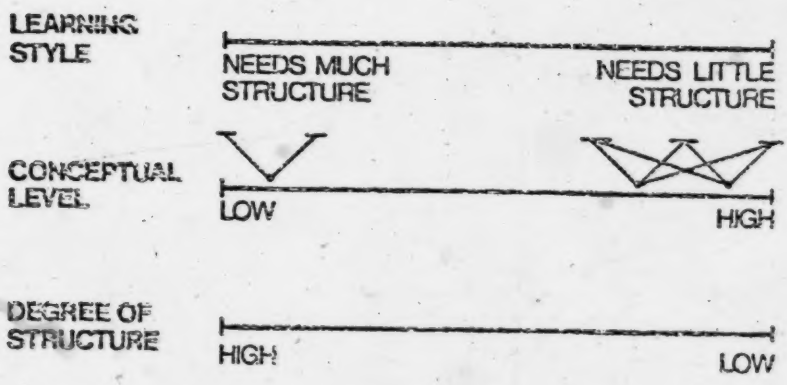

Figure 5. Contemporaneous matching model. (Hunt, 1975a)

Experimental support for this conception has been found by Hunt and his colleagues with school students. An early study reported by Hunt (1971b) showed that when ninth grade students were grouped homogeneously by CL, high CL students profited more from independent study, lower CL from a more structured presentation. Results from a national evaluation of Project Upward Bound showed student improvement following the differential matching model (Hunt, 1971b). Tomlinson and Hunt (1971b) found that low CL students learned better when a 'rule-example' order (high structure) was followed, whereas high CL students performed fairly well under all conditions (including 'example-rule' and 'example-delayed rule') although their performance was lowest under high structure. McLachlan and Hunt (1973) found that low CL grade eleven students were able to subjectively integrate significantly better under high structure (lecture) than under low structure (discovery) while high CL students performed well under both conditions.

Related evidence from other studies may also be cited. For example, Tuckman and his associates (Tuckman, 1968; Tuckman & Orefice, 1973) found that high CL students preferred non-directive teachers. Tuckman and Orefice (1973) also note that the type or cognitive level of the task

interacts with the conceptual orientation of the learner and results in differential outcomes (a position originally posited by Siegel and Siegel, 1965). In this respect, Noy and Hunt (1970) found high CL students to be superior on the cognitive levels of recall, comprehension, and synthesis regardless of whether the instructional approach was student or system directed. Hunt, Joyce, Greenwood, Noy, Reid, and Weil (1974) found that all groups--high to low CL--of junior high school students were able to learn independently through an inductive teaching approach. It was noted that the low CL group proceeded in a more step by step manner and that the higher CL groups indicated a more favorable attitude toward the approach.

Just as behavior is an interactive function of the person and the environment, as exemplified in the above model, so developmental change (change in the person) is an interactive function of the person's stage of development and the environment he experiences, says Hunt (1975a). Person characteristics, then, will also index variations in developmental change.

A person and his environment are developmentally matched, according to Hunt and Sullivan (1974), "if the combination produces progression" and they are mismatched "if the combination results in arrestation or no progression". Developmentally matched environments were derived by Hunt in accord with the following logic:

> For the Stage A person to progress to Stage B, he must understand and incorporate the cultural rules. Since rules are learned best when they are clearly defined, the matched environment to foster development to Stage B is a clear, consistent, highly structured one. Following similar logic, the matched environment for progression from Stage B to Stage C is moderately structured with encouragement for self-expression and autonomy. (Hunt, 1975b, p. 189)

And "Stage C persons are assumed to benefit from environments that are highly autonomous" (Hunt & Sullivan, 1974, p. 210).

Figure 6 is a summary of the differential developmental model.

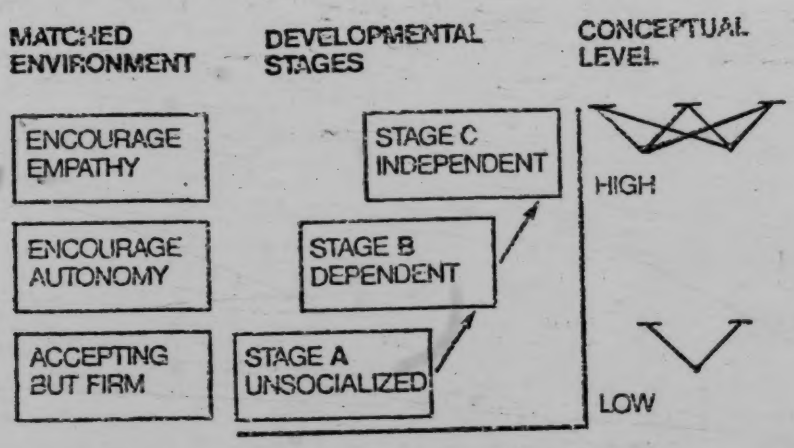

Figure 6. Developmental matching model. (Hunt, 1975a)

As noted by Hunt, evidence in support af an interactive developmental model is difficult to gather. However, Cross (1973), in a study of junior high school boys (of similar age and IQ), found that parents of Stage C boys were significantly more interdependent (the Schroderian term) and less structured in their relationships with their sons than were parents of Stage B boys.

Like Schroder, Hunt uses the Paragraph Completion method but with his own structural scoring system to index CL.

The contemporaneous view of CL as "an accessibility characteristic related to environmental degree of structure" and the developmental view of CL as "a succession of stages related to long-term goals for developmental progression" (Hunt & Sullivan, 1974) together with the accompanying matching models and instrumentation suggest a suitable and seemingly adequate model for the planning and examination of the effects of a given experience upon functioning and development. Although relatively little work has been done with adult subjects involved in occupations, the model should be applicable unless one anticipates a high residual conceptual level to characterize the target population.

Summary of Personality Maturity and Adult Development

The foregoing review served toward the end of (a) defining personality maturity in adult subjects fron both a psychological perspective and a psycho-social perspective; and (b) investigating the dynamics of continuing development in adulthood as they pertain to the facilitation of such movement and to the inducement of further development in prematurely arrested individuals.

As discussed by personologists and ego psychologists, the mature personality is characterized by: an openness to experience; flexibility of functioning; a self-actualizing, self-fulfilling bent; a capacity for involvement and enriched living; an independent, self-confident, autonomous, yet responsible orientation; veridical perception; sensitivity, empathy, and interpersonal effectiveness; and allocentrism, purpose, and commitment. Many of these same characteristics were recognized by Heath (1965) in a study of mature personality functioning.

Cognitive-structural psychologists characterize the mature personality in terms of abstractness of thought; differentiated, articulated, and integrated thinking; the multidimensionality and complexity of the thought structures; and the use of logical and principled thinking. The behavioral manifestations are quite consonant with the functional characteristics as described above.

Reflection upon the developmental stages as postulated by the structuralists (cognitive, ego and interpersonal) and upon the stages of psycho-social development as delineated by the life structure theorists would seem to suggest a possible relationship. It would seem that there would be a developmentally advantageous match between persons at Loevinger's Conformist and Conscientious stages and/or Hunt's dependent B (and transitionals) and sequential passage through the novice period-the

twenties, the age thirty transition, and the 'settling down' period. People at Loevinger's Self-Protective stage, Kohlberg's Instrumental-Relativistic stage, and Hunt's low Conceptual Level would be expected to experience much difficulty in completing the developmental tasks of the early adult stage and thus would probably stagnate at this level of structural and functional development. It would seem that only those who attain the higher levels of Loevinger's Autonomous and Integrated stages and Hunt's higher Conceptual Levels would experience the mature, productive, rewarding life styles of the post forties. The others, it would seeem, would remain at the general conforming level of development, a less-than-fulfilled stage. Such an interpretation seems consistent with the views of Erikson and Sullivan, Grant, and Grant.

There seems to be a consensus of opinion that under ideal facilitatory conditions, there is a realization of the natural predispostion of the organism to proceed toward maturity. Under less than ideal conditions or aversive conditions, development ceases, becomes arrested; there may be functional regresssion and development may stabalize at a less-than-mature level. It appears that potentiality for functional change and change in life style is characteristic of the stage of maturity whereas functional stability characterizes less-than-mature personalities. The degree of stability, perhaps as represented in stage mixture, may be an important factor in attempts to induce change and further development.

Empirical data suggest that few persons in the present social milieu maximize their potential for development. There does appear to be some optimism with respect to the possibilities of furthering development in adulthood--such optimism being kindled, in the main, by the more recent serious consideration of interactional theory. That experience is a key factor related to change in adults (as contrasted with the maturational

theme of earlier development) seems generally agreed upon but experience potency, according to many psychologists, is related to the individual's present level of structural development. Given the significance of experience, as subsumed by the environment, then the most theoretically adequate and relevant theory to guide action at the present time would seem to be Hunt's interactive matching model. The close relationship between this model and the work of Schroder would seem to lend some credibility to such a decision. (Further, as will be discussed later in this review, Hunt has elaborated the model to encompass the socialization of teachers.)

It must be remembered that the relationships noted between and among models remain open to empirical verification at the adult level.

The importance of occupation and occupational socialization was alluded to by the fulfillment theorists and constituted an integral part of the life structure formulations. Attention will now be directed toward an examination of this area in relation to development.

Personality and Occupation

Work as a central part of adult life and development was clearly articulated by the life structure theorists. Similarly, Erikson saw work as playing a role in the resolution of the identity crisis and as one of the avenues for the resolution of the generativity crisis. The view of the self-oriented theorists is summarized by Lugo and Hershey (1974) thus:

> The job is an important source of one's identity. It provides an important source of self-esteem and is a major aspect of one's self-concept during the adult years. (p. 527)

Kimmel (1974) concurs that the job is a salient aspect of a person's identity "ranking in importance along with his name, sex, and citizenship".

The centrality of work is articulated by many social psychologists as well. According to Henry (1975), work is the third major socializing

force in life. Stoll (1974) notes that for men, and increasingly so for women, a work attachment seems basic to developing a meaningful conception of life. Argyris (Ullrich, 1972) speaks of the generalization effects of apathy toward work into nonwork aspects of one's life--the product of which is a generally apathetic individual.

Most people, state Warr and Wall (1975), would continue to work even if it were not financially necessary. Why? Frequently referred to in the literature on this subject is man's need for an optimal level of stimulation, as posited by Berlyne (1960); man's need to achieve, as posited by McClelland (1961); as well as White's need for competence and Maslow's conceptions of needs and self-actualization, as discussed earlier in this report. In this respect Maslow is quoted as having said "I think I am most happy and most myself, and most being as if that's what I were meant to be when I am involved in my work" (Warr & Wall, 1975, p. 10). Argyris (1957) feels that one of the reasons for the general absence of self-actualization in our society stems from our present work environments, from the lack of opportunity to satisfy the higher-order needs.

Argyris' Worker Maturity Model

On the basis of his observations of workers, Argyris, a long-time student of organizational behavior and interpersonal relationships, posited an immaturity-maturity continuum with the following polar characteristics: passive vs active; dependence vs independence; behaves in few ways vs capable of behaving in many ways; erratic shallow interests vs deeper and stronger interests; short time perspective vs long time perspective (past and future); subordinate position vs equal or superordinate position; lack of awareness of self vs awareness and control over self (Hersey & Blanchard, 1972, p. 51).

Models of Developmental Needs in Relation to Work Environments

Herzberg's Two-Factor Theory. Stimulated by an interest in psychological growth on the job, Herzberg (1966), on the bases of extensive interviews, concluded that the needs of workers fall into two categories which are essentially independent of each other and affect behavior in different ways (see Table 6). When people are dissatisfied with their jobs their concern is with the environment in which they work--atmosphere, culture, and climate--whereas when they feel good about their jobs this has to do with the job itself. The former, Herzberg called 'hygiene' factors--they produce no growth in output capacity--and the latter were termed 'motivating' factors--they develop the kind of job satisfaction that tends to increase performance.

Table 6

Factors in Motivation-Hygiene Theory

Hygiene Factors	Motivating Factors
Environment	The Job Itself
Policies and administration	Achievement
Supervision	Recognition for accomplishment
Working conditions	Challenging work
Interpersonal relationships	Increased responsibility
Money, status, security	Growth and development

Source: Owens and Steinhoff, 1976, p. 123.

Hall's 'Career Success Cycle'. Incorporating both the individual and conditions of the working environment, Hall's 'Career Success Cycle' is based upon three assumptions: (1) people seek rewards and positive reinforcement from their work, (2) work behavior which is rewarded will tend to be repeated, and (3) whenever possible people attempt to increase their sense of self-esteem and avoid lowering the same (Hall & Morgan, 1977, p. 205). One way of enhancing self-esteem, reason Hall and Morgan, is

through the development of competence. Thus, a cyclical "success breeds success" model was generated, as shown in Figure 7.

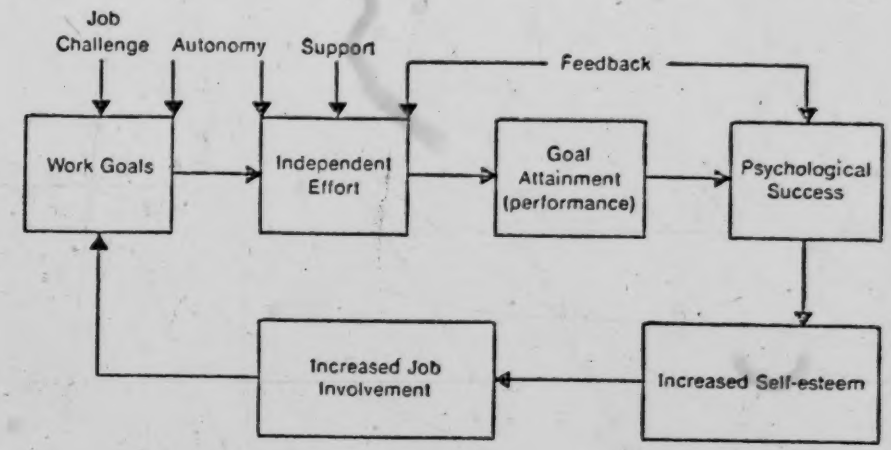

Figure 7. Hall's Career Success Cycle. (Hall & Morgan, 1977, p. 206)

With respect to working conditions, Hall and Morgan state:

> A challenging job makes it possible for the person to set difficult work goals. Autonomy on the job enables the person to determine his or her own means of attaining work goals. Support, help, and coaching from the boss and peers can be helpful in solving problems and maintaining work motivation. Feedback--information about how close the person is to attaining his or her work goals--is important in two ways. First, it helps the person direct his or her effort more effectively to improve performance. Second, it helps the person evaluate or confirm the level of performance that has been achieved. (1977, p. 206)

Thus, a certain optimal level of support, feedback, and autonomy in the organizational climate is required for the cycle to be operative. From their studies and those of others, Hall and Morgan conclude that "when people are deprived of opportunities for psychological success in an organization over many years, they may lose much of their desire to utilize conditions for psychological success when challenging work is finally made available" (1977, p. 207).

Homan's theory of group pressures. The positive benefits of peer support were noted by Hall and Morgan--an observation that is reminiscent of the positive driving force of group pressures noted in the classic

Hawthorne studies (Hersey & Blanchard, 1972)--but according to Homans (1950), group influence can be detrimental to development.

Homans reasons that in order for an organization to survive, certain activities, interaction, and sentiments are required of its members. Interaction leads to sentiments and, in a cyclical spiralling process, increased interaction leads to more positive sentiments and the more positive sentiments lead to increased interaction. Thus there is a tendency for group members to become more alike in behavior and feelings and group expectations or norms are developed about how one "ought" to behave. Deviations from these norms incur group sanctions. The influence that group pressures can have in achieving uniformity is well documented by the classical Asch experiments (Cartwright & Lippitt, 1971).

McGregor's Theory X-Theory Y. Since the classic Hawthorne studies of the 1930's, a few theorists have been interested in looking at motivating environments. One of the better known theories is McGregor's (1960) Theory X-Theory Y. As described by Landry and Trumbo (1976)

> Theory X and Theory Y . . . each embody a set of beliefs about human nature. Theory X assumes that all people are lazy, irresponsible, avoid challenge, etc., while Theory Y assumes that all people are industrious, responsible, seek challenge, etc. Organizations could be described on the basis of these two sets of assumptions. (p. 399)

According to McGregor, organizational practices for adherents of the traditional Theory X are characterized by structure, control, and close supervision of personnel. Adherents of Theory Y practices expose their employees to less external control, allowing them to assume progressively more self-control.

Argyris and Shon's Model I-Model II. Like McGregor, Argyris and Shon (1974) have articulated two models of professional practice (see Table 7). Model I, they state, is characteristic of many of our social institutions including the family and school. Compliance and identification are learned

Table 7

Argyris and Schon's Models of Professional Practice

Governing variables	*Action strategies*	*Consequences for the behavioral world*	*Consequences for learning*	*Effectiveness*
MODEL ONE				
1. Define goals and try to achieve them	1. *Design and manage the environment* unilaterally (be persuasive, appeal to larger goals)	1. Actor seen as defensive, inconsistent, incongruent, competitive, controlling, fearful of being vulnerable, manipulative, withholding of feelings, overly concerned about self and others or underconcerned about others	1. Self-sealing	Decreased effectiveness
2. Maximize winning and minimize losing	2. *Own and control the task* (claim ownership of the task, be guardian of definition and execution of task)	2. Defensive interpersonal and group relationship (dependence upon actor, little additivity, little helping others)	2. Single-loop learning	
3. Minimize generating or expressing negative feelings	3. *Unilaterally protect yourself* (speak with inferred categories accompanied by little or no directly observable behavior, be blind to impact on others and to the incongruity between rhetoric and behavior, reduce incongruity by defensive actions such as blaming, stereotyping, suppressing feelings, intellectualizing)	3. Defensive norms (mistrust, lack of risk-taking conformity, external commitment, emphasis on diplomacy, power-centered competition, and rivalry)	3. Little testing of theories publicly. Much testing of theories privately	
4. Be rational	4. *Unilaterally protect others from being hurt* (withhold information, create rules to censor information and behavior, hold private meetings)	4. Low freedom of choice, internal commitment, and risk-taking		

Table 7 (Continued)

Governing variables	*Action strategies*	*Consequences for the behavioral world*	*Consequences for learning*	*Consequences for quality of life*	*Effectiveness*
MODEL II					
1. Valid information.	1. *Design situations or environments where participants can be origins and can experience high personal causation* (psychological success, confirmation, essentiality).	1. *Actor experienced as minimally defensive* (facilitator, collaborator, choice creator).	1. Disconfirmable processes.	1. *Quality of life will be more positive than negative* (high authenticity and high freedom of choice).	
2. Free and informed choice.	2. *Tasks is controlled jointly.*	2. *Minimally defensive interpersonal relations and group dynamics.*	2. Double-loop learning.	2. *Effectiveness of problem solving and decision making will be great, especially for difficult problems.*	Increased long-run effectiveness.
3. Internal commitment to the choice and constant monitoring of its implementation.	3. *Protection of self is a joint enterprise and oriented toward growth* (speak in directly observable categories, seek to reduce blindness about own inconsistency and incongruity).	3. *Learning-oriented norms* (trust, individuality, open confrontation on difficult issues).	3. Public testing of theories.		
	4. *Bilateral protection of others.*				

through a Model I process. Chickering (1976) describes Model I interpersonal relationships in the following manner:

> In Model One, interpersonal relationships are goal-oriented toward maximizing winning and minimizing losing, with strong emphasis on rationality and minimal open expression of negative feelings. Relationships tend to be characterized by persuasion, stereotyping, intellectualizing, suppression of feelings and information, competition, manipulation, and outward conformity with limited internal commitment. (p. 75)

The self-sealing behavior of Model I, according to Argyris and Shon, is most significant "because it prevents the improvement of congruence, consistency, and effectiveness of theories-in-use (operational theories) by preventing learning" (1974, p. 86). Thus, Model I is seen as building in immaturity with respect to Argyris' immaturity-maturity continuum.

The most significant property of Model II on the other hand "is its ability not to be self-sealing, its tendency to permit progressively more effective testing of assumptions and progressively greater learning about one's effectiveness". As described by Chickering:

> In Model Two, the emphasis is on creating valid information so that internal commitment to free and informed choices can occur, and so that actions can be openly and continuously monitored. Interpersonal relationships call for initiative, collaboration, direct observations, attention to one's own biases and inconsistencies, minimal defensiveness, trust and respect for individuality, and open confrontation on difficult issues. (1976, pp. 75, 78)

Model II, according to Argyris and Shon, is conducive to cumulative personal development or progress along the immaturity-maturity continuum.

Owens and Steinhoff's Mechanistic-Organismic model. In a parallel fashion Owens and Steinhoff (1976) acknowledge the existence of two styles but designate them as 'mechanistic' and organismic' and prefer to place them on a continuum to allow for different conditions faced by organizations.

In order to assume a more adequate perspective on development and occupational context attention will now be addressed to the dimension of

time, of career passage.

Career Stage Models

Schein's career stages. Analogous to the life structure models of development is Schein's model of the structure or basic stages of a career. The model is based upon the assumption that career development is basically "a process of learning or socialization (during which organizational influence is at a maximum), followed by a process of performance (during which individual influence on the organization is at a maximum), followed by a process of either becoming obsolete or learning new skills which lead to further development" (1971, p. 310). The stages are outlined sequentially although some may occur simultaneously (see Table 8).

Although movement within an organization may occur along three dimensions--vertically (change in rank), radially (change in centrality), and circumferentially (change in function)--the dynamics of the career are in terms of a sequence of boundary passages. Schein posits three types of boundaries purported to characterize the internal structure of the organization: (a) hierarchical; (b) inclusive--"separate individuals or groups who differ in the degree of their centrality"; and (c) functional or departmental boundaries.

Following from the model, Schein (1971, pp. 314-316) has developed the following hypotheses about organizational influences on the individual (socialization) and individual influences on the organization (innovation):

> Hypothesis 1. "Organizational socialization will occur primarily in connection with the passage through hierarchical and inclusion boundaries; efforts at education and training will occur primarily in connection with the passage through functional boundaries." The individual is most vulnerable to socialization pressures immediately before and after passage.

Table 8

Basic Stages, Positions, and Processes Involved in a Career

Basic Stages and Transitions	*Statuses or Positions*	*Psychological and Organizational Processes: transactions between individual and organization*
1. Pre-entry	Aspirant, applicant, rushee	Preparation, education, anticipatory socialization
Entry (trans.)	Entrant, Postulant, recruit	Recruitment, rushing, testing, screening, selection, acceptance ("hiring"); passage through external inclusion boundary; rites of entry; induction and orientation
2. Basic training, novitiate	Trainee, novice, pledge	Training, indoctrination, socialization, testing of the man by the organization, tentative acceptance into group
Initiation, first vows (trans.)	Initiate, graduate	Passage through first inner inclusion boundary, acceptance as member and conferring of organizational status, rite of passage and acceptance
3. First regular assignment	New member	First testing by the man of his own capacity to function; granting of real responsibility (playing for keeps); passage through functional boundary with assignment to specific job or department
Sub-stages		
3a. Learning the job 3b. Maximum performance 3c. Becoming obsolete 3d. Learning new skills, etc.		Indoctrination and testing of man by immediate work group leading to acceptance or rejection; if accepted further education and socialization (learning the ropes); preparation for higher status through coaching, seeking visibility, finding sponsors, etc.
Promotion or leveling off (trans.)		Preparation, testing, passage through hierarchical boundary, rite of passage; may involve passage through functional boundary as well (rotation)
4. Second assignment	Legitimate member (fully accepted)	Processes under no. 3 repeat
Sub-stages		
5. Granting of tenure	Permanent member	Passage through another inner conclusion boundary
Termination and exit (trans.)	Old timer, senior citizen	Preparation for exit, cooling the mark out, rites of exit (testimonial dinners, etc.)
6. Post-exit	Alumnus emeritus, retired	Granting of peripheral status

Source: Schein, 1971, p. 311

Hypothesis 2. "Innovation . . . will occur in the middle of a given stage of the career, at a maximum distance from boundary passage."

Hypothesis 3. "In general, the process of socialization will be more prevalent in the early stages of a career and the process of innovation late in the career, but both processes occur at all stages". (These patterns are shown in Figure 8.) Individual innovation will always occur to some extent but in order to lead to new ideas or processes which are functional for the organization, sub-group norms must be reasonably well integrated with organizational norms and goals.

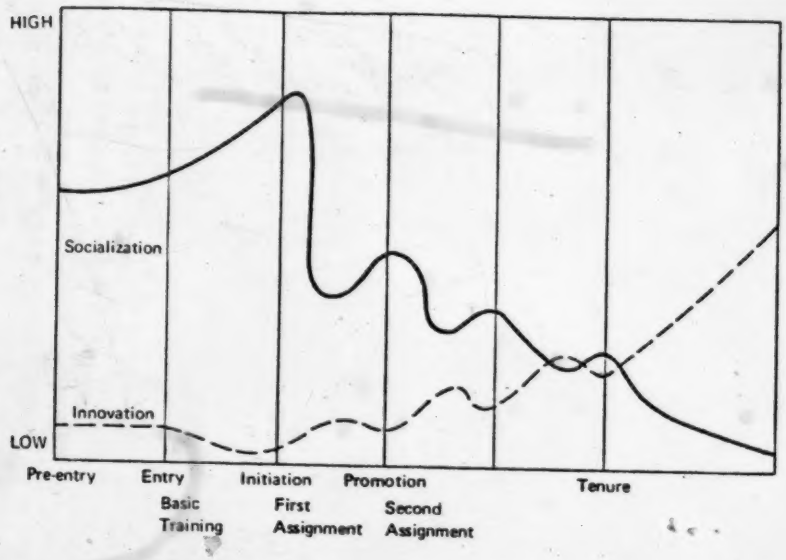

Figure 8. Socialization and innovation during the stages of the career. (Schein, 1971, p. 315)

Hypothesis 4. "Socialization or influence will involve primarily the more labile social selves of the individual, while innovation will involve primarily the more stable social selves of the individual". ('Social selves' includes beliefs and attitudes, according to Schein.)

Hypothesis 5. "A change in the more stable social selves as a result of socialization will occur only under conditions of coercive persuasion, i.e. where the individual cannot or does not psychologically feel free to leave the organization." The individual in this situation may well begin to conform to organizational norms even in terms of his more stable self and become virtually unable to innovate. This pattern is but a special instance and should not be confused "with normal processes of socialization, those involving the more labile parts of the person's self and the more pivotal role requirements or norms of the organization", cautions Schein.

Hall's integrative model of career stages. In contrast to the Schein model which tracks people's movements through the organization, Hall shows career passage in terms of changes in the person (Hall & Morgan, 1977). The model (see Figure 9) is derived from relating the career stages as defined by Super (Super, 1957; Super & Bohn, 1970) to stages of adult

development as defined by Erikson and the life structure theorists.

The Eriksonian period of 'identity' and the life structure period of 'Getting into the adult world' (G.I.A.W. in the Hall model) coincide with Super's exploration period of career development. It is during this time that self-examination, role tryouts, and occupational exploration take place. The stage terminates in a trial period where the individual tests person-occupation fit; goal conflict may be evidenced and job change may result. This observation was also made by Ullrich (1972) in a study of fit between aspired needs and capacity of the environment to provide fulfillment.

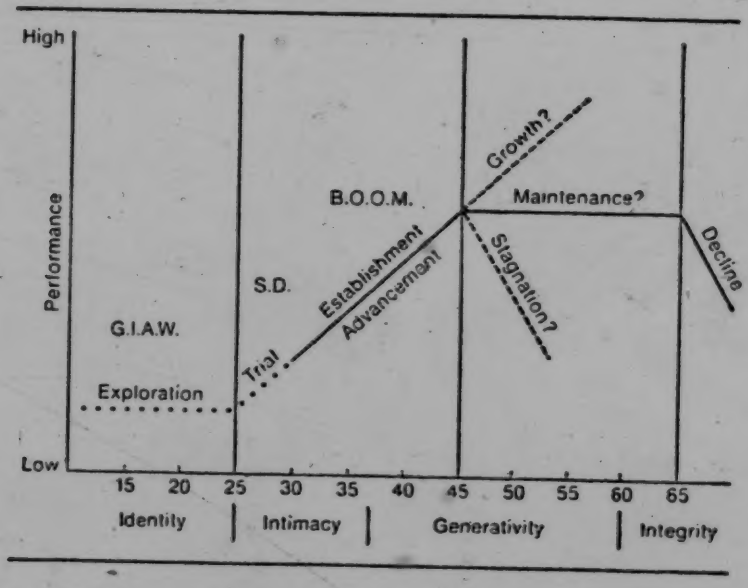

Figure 9. Hall's integrative model of career stages. (Hall & Morgan, 1977, p. 208)

The next stage (approximate age 25 to 44) is one of establishment and, according to Hall, consists of achievement, performance, and advancement. The earlier part of the period corresponds with the life structuralists' 'Settling down' (S.D.); subsequently, the severing of mentor ties results in 'Becoming one's own man' (B.O.O.M.). The period encompasses

Eriksonian 'intimacy' and overlaps with his 'generativity' phase. A mid-career plateau, the maintenance stage, follows in the forties. According to Hall's interpretation of the literature, this period may be one of moderated continuation or it may be a period of "searching, reappraisal, depression, and redirection". Depending on how successful the person is in confronting and overcoming the developmental tasks of this crisis period, there may be continuing growth or stagnation and early decline. The final stage, termed decline by Super, involves transition to retirement and corresponds with Erikson's period of 'integrity'.

Hall has posited training needs--task and personal--associated with each of the career stages. These needs are delineated in Table 9.

Table 9

Training Needs Within Career Stages

Stage	Task Needs	Emotional Needs
Trial	1. Varied job activities	1. Make preliminary job choices
	2. Self-exploration	2. Settling down
Establishment/ Advancement	1. Job challenge	1. Deal with rivalry and competition; face failures
	2. Develop competence in a specialty area	2. Deal with work-family conflicts
	3. Develop creativity and innovation	3. Support
	4. Rotate into new area after 3-5 years	4. Autonomy
Mid-career	1. Technical updating	1. Express feelings about mid-life
	2. Develop skills in training and coaching others (younger employees)	2. Reorganize thinking about self in relation to work, family, community
	3. Rotation into new job requiring new skills	3. Reduce self-indulgence and competitiveness
	4. Develop broader view of work and own role in organization	
Late career	1. Plan for retirement	1. Support and counseling to see one's work as a platform for others
	2. Shift from power role to one of consultation and guidance	2. Develop sense of identity in extraorganizational activities
	3. Identify and develop successors	
	4. Begin activities outside the organization	

Source: Hall & Morgan, 1977, p. 218.

Adams' preservice professional developmental stages. Adams (1969), in a study of postgraduate students undergoing a professional socialization program in Organizational Behavior, generated a framework to describe their psychological development (passage) from being primarily self-oriented to involvement-oriented to instrumentality-oriented. Each of these levels was further elaborated to include four parallel phases: 'situation dependent' and 'reaction to situation', both considered reactive; 'coordination of self and situation' and 'integration of self in situation', both considered proactive. The transitions are shown in Figure 10.

		PHASE I Situation dependent	II Reaction to situation	III Coordination of self and situation	IV Integration of self in situation
LEVEL	A Focus on self	Shock	Defensive retreat	Acknowledgement	Adaption and change
		Self as a result of the situation			
	B Focus on involvement	Inhibition	Action or opposition	Conceptualisation	Internalisation
		Self as a part of the situation			
	C Focus on instrumentality	Observation	Reflection or testing	Formulation	Implementation
		Self as instrumental in the situation			

Figure 10. Adams' phases of personal and professional development. (Hopson & Adams, 1976, p. 10)

Adams observed different rates of passage and that all students did not complete the sequence. Hopson and Adams (1976) believe this model has wide applicability in understanding transitions across life.

As suggested above and in addition to major influences as already discussed, individual variations in competence and career development are evinced. It is toward Kaufman's discussion of such factors that attention will now be directed.

Person Factors in Career Development

From a review of the research on professional obsolescence, Kaufman (1974) noted three reported types of relationships between age and professional competence: (a) a competence peak early in the career (in the thirties) and a decline thereafter; (b) a peak in the post fifties; and (c) both an early and a later peak. A possible explanation for these findings, according to Kaufman, is that there are two populations--after the early peak one group becomes obsolescent and the other group remains current despite increasing age.

Intellectual and cognitive abilities seem related to professional achievement and effectiveness. Kaufman cites studies involving engineers and managers which show that the adoption of new ideas is more likely to occur among persons who are "more intelligent, have a greater ability to deal with abstractions, and possess more technical knowledge". According to Kaufman, many older professionals as a result of accumulated experience may be superior in cognitive strength as compared with younger colleagues (a point made earlier in this paper by Levinson and currently of much interest to students studying adult abilities).

A second factor related to currency is that those individuals who manifest a strong inner motivation (self-motivation) do not experience the early decline sometimes noted in the forties but rather tend to prolong their achievement over a broad span of their career.

Kaufman identifies three aspects of self-motivation which relate to individual career development. Firstly, a professional's fundamental interests, which are developed and stabalized before career entry, are related to the degree of professional currency maintained. A second factor has to do with the way needs change during career passage. Lower level security needs, according to Kaufman, are very strong at the beginning of

the career but then sharply diminish in strength within five years. But during that period the higher order growth needs (achievement, esteem, self-development) increase intensely regardless of career success. The stronger these growth needs, the weaker the predisposition to obsolesce, posits Kaufman. Individuals with high achievement needs are, says Kaufman (1974, p. 56), " more dependent on their own skills for success, are more willing to take risks, assume greater responsibility for making decisions, and tend to anticipate future exigencies by taking current action with respect to future developments." Individuals experiencing successful careers are able to satisfy their growth needs by the fifth year but for those who do not experience success the satisfaction of such needs plummets. If frustration of growth needs continues into mid-career then, according to Kaufman, these needs may be replaced by protective-security needs, a process akin to psychological regression. If the growth needs are satisfied they level off, reach a plateau, and other types of needs may emerge that will direct later career goals. Individual strivings may then be directed toward serving his profession, family, community, or the like. Kaufman also notes that goals are subject to the goal emphasis of the organization and "there is a socialization process whereby the individual's goals become more congruent with those of the organization" (1974, p. 58).

Growth needs can be satisfied by attainment of either goals that are local (unidimensional)--doing the best job--or goals that are cosmopolitan (multidimensional)--directed to the profession. (Advanced education seems to be associated with more cosmopolitan goals.) Kaufman suggests that obsolescence is more likely to occur among those who lack some degree of cosmopolitan goal orientation.

Another change that occurs during career life is in respect to the expenditure of effort: Young persons have more energy, more reason to expend energy, and do expend more energy than their older colleagues. Initiative, which relates to success and independent efforts at updating, may diminish over time but for some individuals may increase with age, says Kaufman. Rigidity shows a similar pattern: Individuals generally become more rigid with age but some of the old may be more flexible than the young.

As suggested by Kaufman, entering behavior (characteristics) may well have a predisposing effect upon subsequent career development. Super (1957) posits that both career selection and satisfaction are functions of one's total personality and life style. Rosenberg (1970) found that students who scored high on his people-oriented scale (were compliant) chose social work, medicine, teaching, and social science; those who scored high on his self-expression scales (were detached) chose architecture, journalism, and art; and those who scored high on extrinsic-reward orientation (were aggressive) chose sales, hotel management, estate agency, and finance.

A search of the literature reveals that some attention has been directed toward a deliberate coordination of worker characteristics and manager/leader styles for the purposes of maximizing worker effectiveness and facilitating the development of worker maturity. It is toward this topic that discussion will now turn.

Managerial-Worker Matching Models

Graves. It has been suggested by Graves (Loevinger, 1976) that deteriorating work standards may be the result of incongruency between the psychological level of the worker and the managerial style of the manager.

Based on the assumption that the mature adult tends to change his psychology as the conditions of his existence change, Graves has delineated seven hierarchical adult stages of worker development--"levels of human existence"--as follows (Loevinger, 1976, pp. 102-104):

(1) Autistic behavior--responds only to giving and to care
(2) Animistic existence--requires close supervision
(3) "Awakening and fright"--responds to rigidly prescribed and enforced rules
(4) Aggression and power orientation--resists fitting into a prescribed organizational design but responds well to incentives
(5) Sociocentric orientation--after physical and material security have been ensured the worker desires a congenial, comfortable working environment and responds well to group efforts to institute labour-saving devices. (Mismatching of 5th level managers with 3rd and 4th level workers can be disastrous.)
(6) Aggressive individualism--a responsible, creative person who insists on attaining goals in his own way (May appear threatening to 4th or 5th level managers.)
(7) Pacifistic individualism--also resists domination, coercion, and restriction but less oppositional than 6th level; thrives on trust and respect

Hersey and Blanchard's 'Life Cycle Theory' of leadership. In a more comprehensive manner, Hersey and Blanchard (1972) have developed a leadership model based on the theory that

> As the level of maturity of one's followers continues to increase, appropriate leader behavior not only requires less and less structure (task) while increasing consideration but should eventually entail decreases in socioemotional support (relationships). (1972, p. 134)

The developmental matching model, shown in Figure 11, proposes that beginning with the structured task behavior, which is appropriate for working with immature people, the leader should move, as his followers move along the immaturity-maturity continuum, through (1) high task-low relationships behavior to (2) high task-high relationships to (3) high

relationships-low task behavior to (4) low task-low relationships behavior.

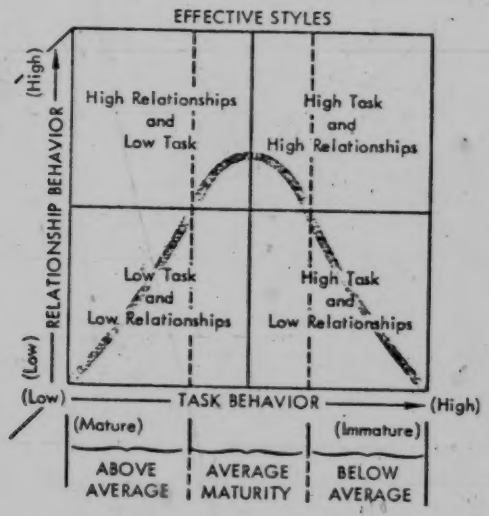

Figure 11. 'Life Cycle' leadership-follower matching model. (Hersey & Blanchard, 1972, p. 142)

Although Hersey and Blanchard originally defined maturity as "achievement-motivation, the willingness and ability to take responsibility, and task relevant education and experience" (1972, p. 134), the model was easily extended to encompass Argyris' immaturity-maturity conception (see Figure 12). The relation of Maslow's hierarchy of needs and Herzberg's Motivation-Hygiene theory to the Life Cycle model is also indicated in Figure 12. Also, it would seem that McGregor's Theory X-Theory Y, Argyris and Shon's Model I-Model II, and Owens and Steinhoff's Mechanistic-Organismic conceptions are readily accommodated by this model.

Employing the Lewinian concept of change--unfreeze, change, refreeze, Hersey and Blanchard use the model to show the change sequence, as illustrated in Figure 13.

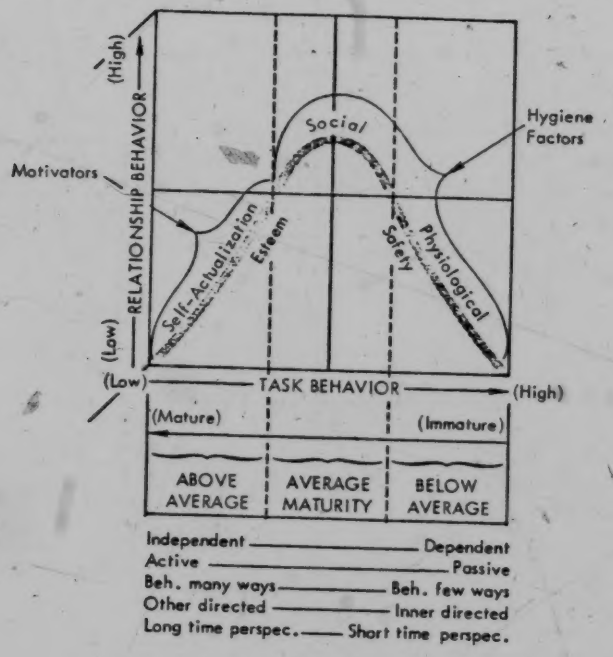

Figure 12. Relationships between Life Cycle theory of leadership and Maslow's hierarchy of needs, Herzberg's motivation-hygiene theory, and Argyris' immaturity-maturity continuum. (Hersey & Blanchard, 1972, p. 174)

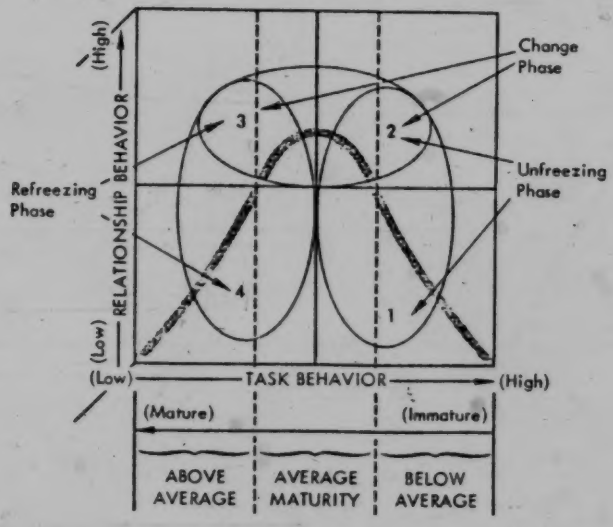

Figure 13. Relationship between Life Cycle theory and the process of change. (Hersey & Blanchard, 1972, p. 178)

Using the behavior modification technique, leader behavior for the change cycle is described as follows:

> When working with immature people, at first you tend to cut back on the structure, giving the individuals an opportunity to take some responsibility. When the leader gets the smallest approximation of mature behavior, he immediately increases the socio-emotional support as positive reinforcement. This stairlike process (cut back on structure, then reinforce socio-emotional support) continues until the change or changes start to become a habit as the people mature. At that point, the leader tends to cut back also on reinforcement as he moves toward quadrant 4 and a low structure-low consideration style. (Hersey & Blanchard, 1972, p. 178)

Summary of Psychological Development and Occupational Development

Substantive ideas from the foregoing review when considered in relation to the earlier reviewed literature on psychological development enable the statement of two related propositions: (1) occupation represents a central means through which the innate predisposition of the organism to proceed toward maturity can be realized; conversely, occupational experience may play a key role in the arrestation of development and the demise of indigenous individual motivational dynamics; (2) there exists a parallel, dynamic interactive relationship between progression toward psychological maturity and progression toward occupational maturity.

Among the many potentially relevant issues raised in the foregoing review of literature, a few general observations merit mention at this point.

Noted is the similarity between characterizations of worker maturity as expressed by Argyris (and as indirectly implied in the Herzberg model) and characterizations of psychologically mature and less-than-mature persons as posited by the structural developmentalists.

The role of environment appears central in many of these theories (cf. Hall, McGregor, Argyris and Shon). McGregor's Theory Y and Argyris and Shon's Model II seem quite complementary to Schroder and Hunt's con-

ceptions of the 'interdependent' environment. When development is of central concern, then more embracing would seem to be the 'mechanistic-organismic' continuum model of Owens and Steinhoff.

The delineation of career stages provides another more specific framework for the coordination of person and environment characteristics for the purposes of maximizing performance and facilitating development. According to Schein's tracking model, it is during the early stages of career and immediately before and after boundary passages that the effects of the organization on the individual (socialization) are most potent. And, if one applies Hunt's CL developmental model, it is precisely at these times (the unsocialized stage and the early dependent stage) that developmentally the individual is in need of structure, direction, and supportive distinctive feedback, as proposed by Hunt, Hall, Hersey and Blanchard.

Innovation, according to the Schein model, if it occurs, comes later in passage and between boundary transitions, a point also predictable from the Hunt model. Kaufman's observations that new idea receptivity is more characteristic of the cognitively competent, the more abstract thinker, and the person who possesses a wealth of technical knowledge, would also seem to lend credence to this position.

Frequently noted is that the course of career passage is not always in the direction of constructive worker innovation and maturity. Relevant is Kaufman's inference that when the career is experienced as successful normal growth needs are usually satisfied during the first five years, thereafter they level off and higher, more allocentrically-directed needs emerge. Continuing frustration of the early growth needs into mid-career, according to Kaufman, results in the replacement of these needs by protective-security needs. Such a situation suggests arrested

psychological and occupational development; the stabalizing and debilitating effects of which have been noted by Hall and Schein. Further, one is reminded of the characteristic 'life styles' of Sullivan, Grant and Grant's less-than-mature adults and of Werner's automatized behavior patterns.

Hall's matching model of 'Training needs with career stages' and Hersey and Blanchard's 'Life Cycle leadership-follower' matching model designed to facilitate progression toward worker maturity, appear to be the psycho-social analogues of Hunt's psychological structural model.

It seems to follow from the preceding reviews that in order to develop a specific plan of action for the coordination of occupational and psychological development, one must have knowledge of the organizational structure, the demands of the occupation, and the nature of career passage for that target occupation, in this case, teaching. Attention in this review will now be addressed to such considerations.

Teaching and Development

Some Characteristics of Teachers and the Ethos of Teaching

According to data gathered by Fuller and Brown (1975) the stereotype of the teacher is changing:

> The new teacher is younger and less experienced, but better qualified. Still typically a female, more and more of her colleagues are males. She has higher economic status, and is more likely to come from a professional family background and to have an advanced degree. She expresses more commitment to teaching and is more likely to teach continuously with no breaks in service. (p. 27)

These researchers found three distinct sex/age groups within the teacher population. A first group is comprised of older females who have higher social class origins, less preparation, less commitment, and more interrupted service than do older men. Younger males and females, exemplars of the new teacher image, comprise a second group. A third

group is comprised of older males, including administrators, who are lower in class origin and less committed to teaching per se.

Distinct differences have also been found to characterize teachers of different grade levels. Teachers of younger children are warmer, more hopeful, more supportive, less critical, more exhibitionistic, more orderly, more dependent, less bright, more consistent in their views, more directive and teacher-centered, and more encouraging of dependence than are their secondary counterparts (Fuller & Brown, 1975).

Employing a multifaceted approach--historical review, surveys, interviews, and findings from other studies--Lortie (1975) examined the patterns of orientations and sentiments peculiar to teachers. Intensive study of the development and perpetuation of the occupational structure of teaching--patterns of recruitment, socialization, and the system of work rewards--led him to conclude that such processes give rise to characteristic outlooks--conservatism (continuity), individualism (of a muted quality), and presentism. The circle is completed, according to Lortie, "as the structure produces orientations which reinforce it"; the institution becomes self-perpetuating. He found that teachers define their tasks and reflect sentiments congruent with these three outlooks.

Defining Attributes of 'Good' Teachers

Much of the early research on teacher effectiveness was concerned with the identification of personal, universal qualities of the teacher which could be related to pupil growth and contextual variables were usually ignored. In the main, the search has been considered less than successful and the more recent trend has been toward the identification of teacher behaviors associated with student performance (Dunkin & Biddle, 1974). A few stalwarts still insist that competent, effective,

good teachers can be identified on the basis of personal characteristics, that these characteristics are manifest in teacher behavior.

That there are pervasive, consistent differences in teachers seems well documented. Ryans (1960) used rating scales in the identification of differentiating characteristics and then validated these against several presage, context, and process variables. The factors so identified were: teacher warmth (understanding), teacher responsibility (businesslike classroom conduct), and teacher stimulation or imaginativeness.

Gage (1973), on the basis of a review of the voluminous literature to date on teacher effectiveness, concluded that the following four attributes are valid in terms of identifying effective teachers: warmth (as evidenced in approving, accepting, supportive behavior based on respect for, trust in, and liking of others); indirectness (Flander's conception plus the 'guided discovery' approach to instruction); cognitive organization (reflects the teacher's grasp of the content); and enthusiasm.

Rosenshine and Furst (1971, 1973), who used category systems to monitor teacher and student behaviors, identified nine teacher variables which related to student achievement: clarity, variability, enthusiasm, task-oriented and businesslike manner, criticism (negatively related), indirectness, provision for students to learn criterion material, use of structuring comments, and multiple levels of cognitive discourse.

In a summary of major research on teacher effectiveness, Klausmeir (1975) states:

> During actual teaching, knowledge of the subject matter, being warm, understanding and friendly, being responsible, businesslike, and systematic, being stimulating, imaginative, and surgent, and being enthusiastic and flexible have consistently been found to correlate